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THE HEALTH MAGAZINE

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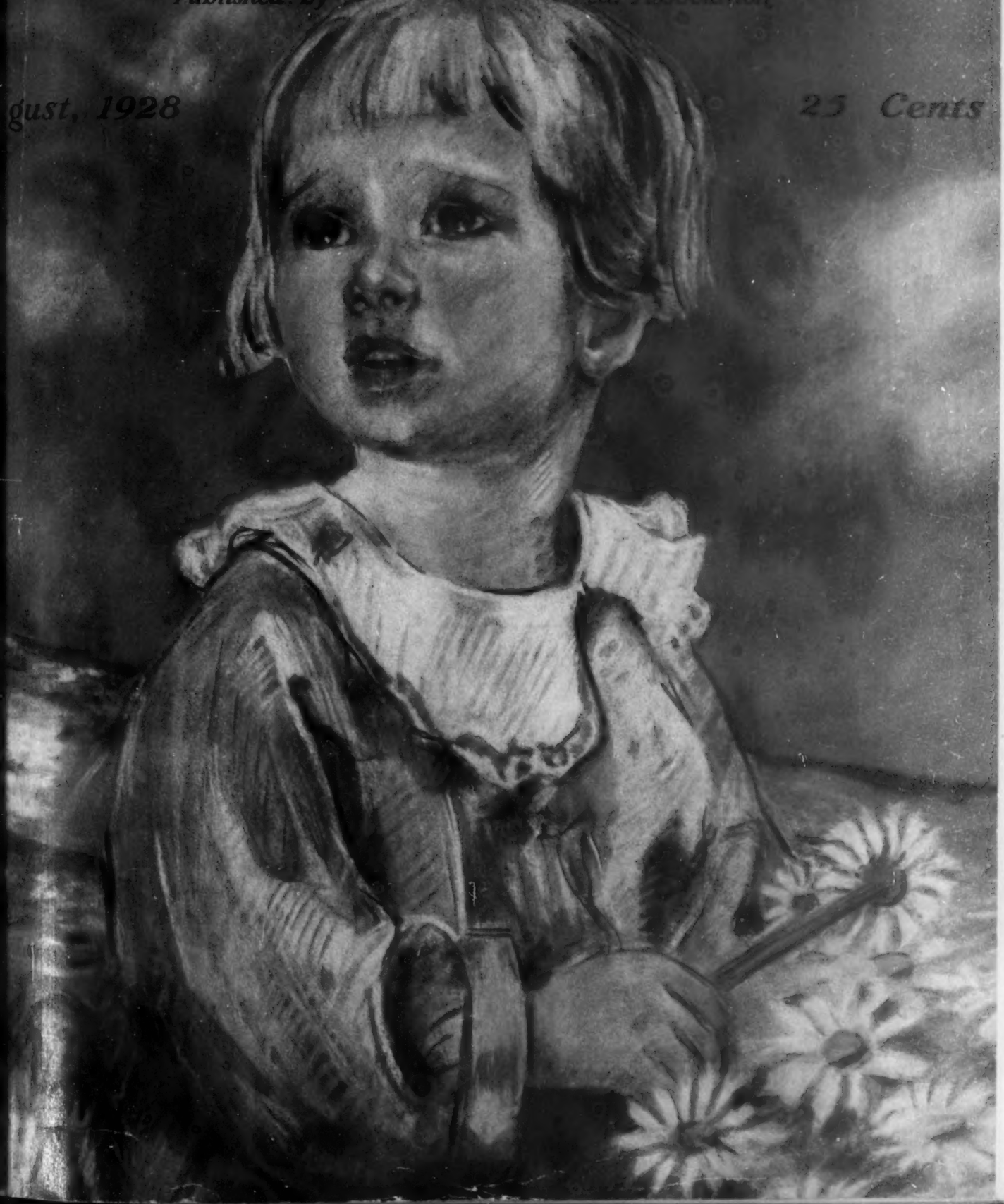

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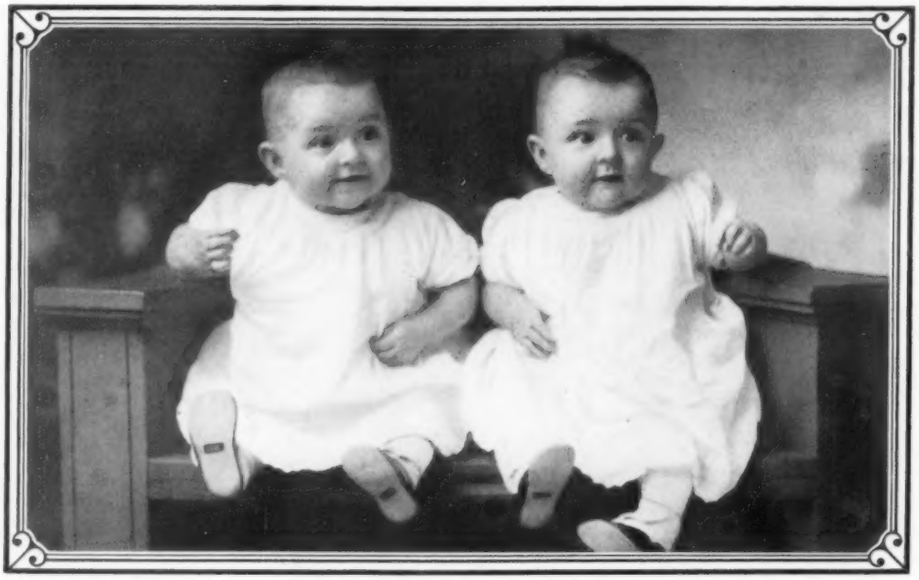

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HYGEIA

THE HEALTH MAGAZINE

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Contributors to This Issue

JESSIE C. FENTON, who advises well meaning but tactless grown folk how not to approach children, knows whereof she speaks, having written a book on the "Practical Psychology of Babyhood" and numerous articles about children. She is the author of "Safety First for Babies," which appeared in HYGEIA for May, 1927. She is now living in California.

SCOTT E. W. BEDFORD, author of many articles on social problems, is research secretary of the United Charities of Chicago.

An authority on organized recreation writes this month of a unique venture in the field of commercial recreation. ERNA D. BUNKE is secretary of the field department of the Playground and Recreation Association of America. From the heart of the Middle West, MARIE B. RYAN of Iowa Wesleyan University makes a plea for physical education of the country girl to help lower the rural sickness rate.

Taking the seeming mystery out of the doctor's language is the purpose of LLOYD E. SMITH, who analyzes Latin medical terms. He performed the same service for Greek in HYGEIA for November, 1927. DR. IRA S. WILE of New York is a child specialist, as is DR. R. I. HARRIS of Toronto, Ont.

Disturbances of speech are in the special province of DR. JOHN A. GLASSBURG, who is a specialist in diseases of the ear, nose and throat.

How one city is helping to reduce the alarming prevalence of heart disease in the United States is told by O. H. BARNHILL, a Los Angeles writer. DR. MAHLON ASHFORD of Baltimore frequently contributes articles on medical topics to HYGEIA. DR. H. C. SOLOMON, Boston neurologist and psychiatrist, concludes his article on causes of mental disease. Children will remember KATHARINE RANGER as the author of the letters from Holland and Italy last Christmas.

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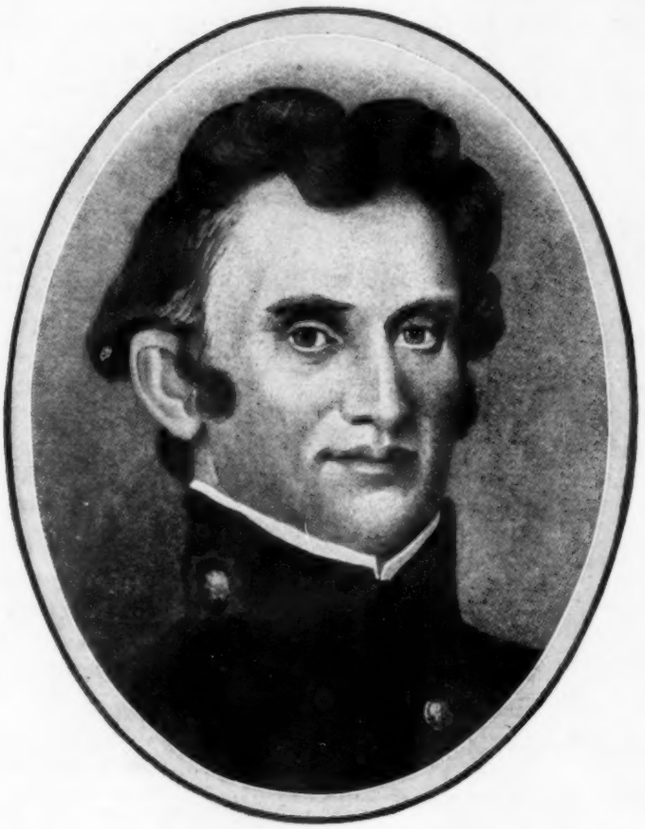


HEROES OF AMERICAN MEDICINE

XV. William Beaumont

WILLIAM BEAUMONT, pioneer American physiologist, was born in Connecticut in 1785. On June 2, 1822, while Beaumont was serving as post surgeon at Fort Mackinac, a half-breed Indian named Alexis St. Martin was accidentally injured by the discharge of a shotgun. One side of his body was almost torn away. After a convalescence of three years an opening formed between the outside wall of the body and the patient's stomach. It was therefore possible for Beaumont to observe directly the digestion of food and to record the results of all sorts of experiments which he carried out with the assistance and cooperation of St. Martin.

The results of his investigations were published in a book called "Experiments and Observations on the Gastric Juices and the Physiology of Digestion." The book was printed in 1833 and represents one of the important and fundamental works in medical science. Six years after the publication of his book Beaumont resigned from the Army and settled down to general practice in St. Louis. He was quite successful. He died on April 25, 1853, when 69 years old. His observations made his fame enduring. So exact was his study of the nature of the gastric juices and of digestion in the stomach that most of his observations have stood a test of almost 100 years of subsequent observation.

Has the Cat Got Your Tongue?

By Jessie C. Fenton

"Take our baby away?" Wide eyes turn to me in almost unbearable entreaty as I hasten to explain for our son that the visitor's hideous suggestion is a joke.

MOST adults are interested in children and attracted by them. The person who "has a way" with children is usually inclined to be proud of the fact, and the person who has not wonders a trifle wistfully what is the matter with him anyhow.

Yet, relatively few people seem to know how to be friendly toward children. The average adult who finds himself faced with the problem of entering into conversation with a strange child is likely to find himself so at a loss for something to say that he must needs fall back on one of the stereotyped phrases that custom has taught him to associate with conversations with children.

Questions Beneath Reply

"What is your name?" he may begin, or, with some slight attempt at subtlety, "Can you tell me your name?" or, "Whose little boy are you?" Perhaps this is not a bad beginning, for names are convenient, though not absolutely necessary, appurtenances of conversation. Though it is a little blunt, this method of approach may serve its purpose and start the conversational ball a-rolling. If it does, well and good; we shall not quarrel with it.

Suppose, however, that it does not so serve, but leaves the child shy and a little resentful, continuing in unbroken solemnity his disconcerting stare. The adult searches his uneasy consciousness for further openings. Let's see, what does one say to a child? The chances are fairly good that the next remark will be that time-worn bit of would-be facetiousness, the query, "What! Can't you talk? I wonder if the cat has got your tongue?"

Almost the Worst Thing You Could Say

Now matters are worse than ever, for this remark is obviously beneath reply. If a child is not bewildered by its inanity or frightened by the savagery of its implications, he will probably be filled with utter contempt for its asininity.

For some strange reason a question seems most likely to spring to the lips of the adult who is at a loss for something to say to a child. These questions are all too often remarkably unintelligent ones. A question heard frequently by way of an overture to a child's friendship is this: "Can I take you home with me to be my little boy?" This seems to form a part of the stock in trade of agents, solicitors, plumbers and all those folk who for various business reasons enter homes. It seems to be, in the minds of such persons, the correct approach to a child, having the same status that a comment on the weather holds among adults. It is very nearly the worst thing one could say to a child.

Imagine the effect on a child of such a remark! How agonizing must be the idea of being taken by some unprepossessing and fearsome stranger—for all strangeness is to a child in some degree fearsome—from this snug little world of his own home into the terror of unfamiliarity that lies without! The suggestion falls little short of torture.

Never have I been more perilously near to murder than when, on hearing this well-meaning bit of brutality addressed to my own little son, I have seen his blanching face and the stricken eyes that cling to mine as if to read in my expression whether or not I would really allow this thing to happen. After a dozen such experiences, a dozen loving reassurances, that anguished look still comes. When one has lived in this world for a matter of only five years or so, it is still so complicated and bewildering a place that one cannot be too sure that anything—*anything*—might not happen; even that one's mother might not submit to one's forcible abduction by this grimy man with the queer tool box under his arm, or that gaunt and unlovely lady carrying the shabby satchel.

If they don't say that—these intruders in the name of business—they make another remark which is almost if not quite as bad. They say, "Will you give me your baby? Shall I take your baby home with me?"

Take our baby away—our baby, who is undoubtedly the most wonderful baby that ever existed; our baby, whose coming was an event so fraught with anticipation and proud rejoicing! Take our baby away! The little heart all but stops beating; the wide eyes turn to me in almost unbearable entreaty as I hasten to explain that this hideous suggestion is a joke.

There is no phase of humor more incomprehensible than the traditional stock of jokes that are reserved for use with children. A common form consists in the facetious propounding either in query or statement of the exact opposite of some fact or idea. "Well, what a nice little girl!" remarks a pompous visitor to an indignant little boy. When the child attempts to argue in defense of his masculine status, his interlocutor insists, with heavy jocularity, that this is surely a little girl, and takes manifest pleasure in having so expertly "got a rise" out of his young victim.

A friendship with children should be founded on common interests.

I have heard facetious adults argue with a child even on the subject of his own name. I recall an incident on a ferry boat, when a little fellow was assured by one of the passengers that he was mistaken in calling himself by the sober name of John, because his true cognomen was the more fantastic title, "Willie of the Pickle Boat."

Small John was at first grieved and frightened, his lips trembled and his eyes filled. Then he was moved to wrath and gave valiant verbal battle to the assailant of the sanctity of his name. This was, of course, precisely what the jocular gentleman wished, and he, together with a group of admiring bystanders, had several minutes of excellent sport, culminating in the glorious victory of persuading the child that he was, in very truth, Willie of the Pickle Boat and none other.

The news of this delicious farce spread through the boat, and during the remainder of the trip a succession of passengers came up to ask the child his name and rejoice in his quaint rejoinder that he was known as Willie of the Pickle Boat!

This merry jest—the denial or distortion of a name—is a common one; I have heard it many times. It has variants, consisting in the inversion of any common well known fact. A little one who was just learning the names of colors, for example, was assured that apples are blue, and it became for a time an established sport in the family to propound a long list of queries in regard to the color of various things, with great enjoyment of the one quaint error about the blueness of apples amid the series of correct replies.

Just consider for a moment what an exceeding number of strange new things this world presents for the unfolding mind of a child to learn. It is wonderful indeed, when you stop to think about it, how much children cover in those first few years. When they have so many, many items to learn before they can be able to cope with the intricacies of our complex human life, it is terribly unfair, isn't it, to add to the amount of contradictions, confusions, untruths? If only as a matter of efficiency—an argument that should appeal to every one in this efficient age—we should take care not to confuse or bewilder a little child in his task of getting his ideas about this complicated universe arranged into some sort of order.

This is perhaps the least important aspect of the matter. For there is the effect on the subtle emotional mechanism of the child to consider—the griefs and bewilderments that may be aroused by the facetious deceptions of grown persons. We have surely in late years heard enough about complexes, about the neurotic fears and repressions that may grow out of mistaken ideas and attitudes of childhood, to be willing to give serious thought to the possible unwholesome effects on children of such behavior toward them.

There is one more of these time worn pleasantries that ought not to be ignored while we are on the subject. That is the fashion that well-meaning people have of twitting a child upon the acquisition of a new brother or sister. "Well, you're not the baby any more!" they say to him, openly gloating at his implied discomfiture. And "Is your nose out of joint?" (asinine phrase!) they ask.

Now a child ought to feel that quite the most desirable thing that could befall him is the acquisition of a baby brother or sister—that delightful, wonderful living plaything and companion. That is a treasure beside which a new tricycle or doll's house or teddy bear becomes as dross. The coming of this rare gift should be an occasion for pride, for rejoicing, an occasion for feeling oneself quite particularly blessed as compared with less fortunate children who have nothing new save some inanimate toy that any one could buy at a store.

Up-to-date parents have learned to recognize that this is how a child should feel about the matter; they have learned to discard old prejudices and repressions and to prepare the child for the advent of the new baby, allowing him to share in the anticipation and teaching him to await with loving expectation the day when the new real live playmate shall come to the home. By such an attitude parents can insure that no dark jealousies and rebellions shall come between the older child and the new one, can insure a wholesome, joyous adjustment of family relations. They can, that is, if neighbors, friends and relatives can only be kept at bay with their stupid and outworn "jokes." The chances are slender indeed, however, that some misguided person will not find a chance to get in this traditional jibe with its insidious suggestion of jealousy and dislike. It is indeed a sorry jest.

Now the pathetic thing about this matter is that it is not unkind or unfriendly people who are guilty of these various unfortunate remarks. On the contrary, it is just the kindest and best intentioned people in the world. It's the people who are interested in children and moved by them, the people who want to be gracious and comradely and amusing to them. Even doctors, who ought to know better, err all too often in this respect. It is imagination that they lack; they don't stop to put themselves into the child's place and think how they would feel about it if the positions were reversed. Having no inspiration for something to say, they fall back on these remarks simply because they are made to order and convenient.

Small John was moved to wrath. He was not Willie of the Pickle Boat, and he gave valiant verbal battle to the assailants of the sanctity of his name.

I should like, for the honor of my sex, to be able to say that such offenses are to be laid chiefly at the door of the menfolk, whom we like to think of, poor dears, as lacking in those subtle intuitions with which we are endowed. But this, I'm afraid, is not true. Women are almost, if not quite, as likely to take refuge in these cut-and-dried pleasantries as men. Not even mothers are exempt, for I know many women who, after the long schooling involved in raising a sizable family, are still able to ask with-

out a blush whether the tongue of a shy and embarrassed child has been appropriated by the cat, or whether the nose of a youngster newly raised to the enviable status of elder sisterhood has not thereby been put out of joint.

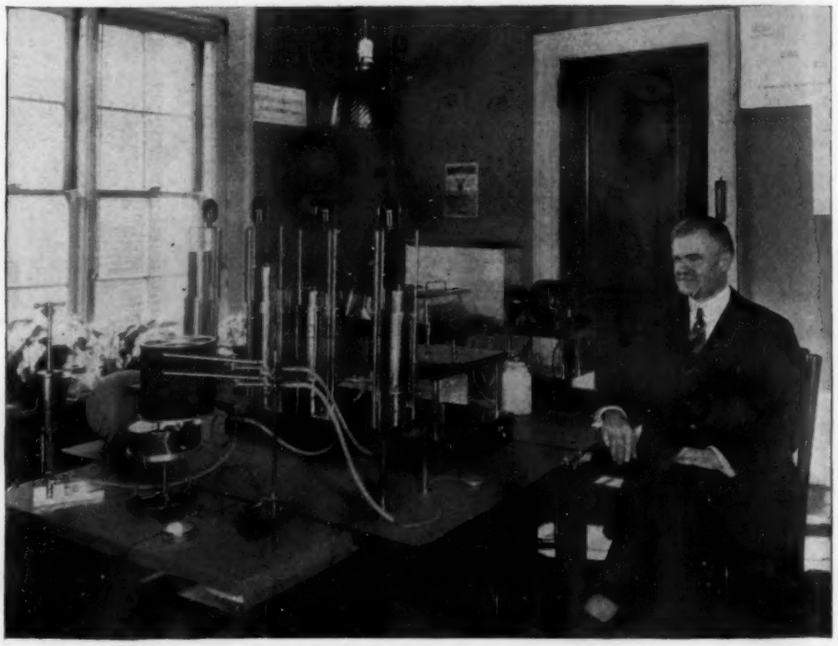
Grown persons should remember that a child's self-respect is at least as important as their own, and is even more easily wounded. Children resent keenly being treated with ridicule or condescension. A friendship with children must be founded on common interests, just exactly as a friendship with adults must be. If you haven't something of interest to say to the child, then remember that silence is golden. If you do want to talk to him, then you should choose a subject within the child's comprehension and interests to discuss.

This is remarkably easy to do, for children are interested in almost everything. If you have recently seen a dog, or a cat, or a railway train, or a special sort of automobile, or a woolly caterpillar, or a baby, or a bird's nest, or a circus parade, or a colored pebble—or almost anything else—make a casual comment about it. If the little one doesn't prick up his ears and come a step closer, it will be surprising.

Having found a topic of common interest, talk about it intelligently and with dignity. A child is serious about his interests. He dislikes as keenly as you would to have them belittled or ridiculed. The way to meet a child on his own level is not by trying to act childish yourself, but by treating the child as if he were, as indeed he is, within the limits of his experience and comprehension, quite the same sort of being as yourself.

After all, the whole problem resolves itself quite simply into the Golden Rule.

Vital Energy Varies Little



Dr. Benedict in his laboratory.

BASAL metabolism, or the minimum of vital energy needed to carry on vital activities of the human body, is remarkably constant, Francis G. Benedict, Sc.D., director of the Nutrition Laboratory of the Carnegie Institution, Washington, D. C., said in a recent lecture on advances in methods of measuring variations in human energy.

Dr. Benedict believes that every person has a normal fixed basal metabolism which does not undergo changes even with considerable provocation. When it does alter in a marked degree, disease or some profound change in the general make-up is usually the cause.

Vacations, for instance, when living conditions are decidedly different from the usual routine, have little or no effect, experiments on twenty-two members of the laboratory staff showed.

The popular belief that the tropics reduce one's energy was disproved by a series of measurements of metabolism in a group of investigators in Yucatan. Among the Maya Indians in Yucatan the average was 5 per cent above that for the white men. These results suggested experiments to discover the effect of exposure to cold, from which Dr. Benedict concluded that the heat production of the body is increased by exposure to cold, but not to the degree that one might expect.

Measurements of basal metabolism have been extremely valuable in studying the common affliction of overweight, Dr. Benedict said. The chief cause of fatness is overeating and when you eat more than you burn up in energy, the excess must be deposited in the body, he explained.

Illness as a Cause of Poverty

By Scott E.W Bedford

Lewis W. Hine

With father, the chief wage earner, sick, a family often becomes dependent on charity for at least partial aid.

HEALTH is wealth, we have always heard. Is this like many other proverbs—true in early or in rural society but not necessarily true today or in big cities? Here is some present-day social evidence that sickness, both physical and mental, causes poverty. The United Charities of Chicago, in a study of 184 of its family case records, discovered that in fifty-four of these families the major cause for coming to the charity society was illness; in forty-five cases, illness of the man; in six cases, illness of the woman, and in three cases, illness of the children.

Father's Illness Causes Dependency

Illness caused the dependency of fifty-four families. The father in forty-five of the families was suffering from acute or chronic illness; in twenty-three instances it was tuberculosis. The outcome of these tuberculosis cases was discouraging, although all were constantly under medical care; nine of the men died, and four were still under treatment; nine recovered sufficiently to be able to work, and one returned to Italy. With the removal of the tuberculous fathers to a sanatorium in these twenty-three cases, the mothers were relieved of the care of the patients in crowded quarters, of the additional work incident to diet and nursing, and of the stress and strain of adjusting the household of children to their needs for quiet.

The inability of the remaining twenty-two men to support their families was caused by:

15 cases of chronic illness
2 chronic physical disabilities—1 blind, and 1 deaf and blind man
5 accidents, 4 of them industrial

The illnesses were as follows: organic heart disease, two cases; hernia, two cases; sclerosis of the liver, two cases; bronchitis, one case; asthma, one case; osteomyelitis, one case; paresis, one case; locomotor ataxia, one case; venereal disease, one case; Banti's disease with progressive anemia, one case; removal of bladder, one case; gastro-intestinal condition with incomplete diagnosis, one case.

The element in the situation of the chronically ill men that was different from that of the tuberculous fathers was that all of the former men were confined to home. They had in common with the tuberculous patients the handicap of not being able to take their places as the chief wage earner and the worry incident to being dependent and ineffectual.

Difficult Domestic Situations

Their illness, their inability to contribute to the family in the way customary to the male head of a household, and their close surveillance of the wife's management of the house and children created a difficult situation, to which even more comfortably organized households would find it difficult to adjust themselves. When there is the added element of cramped

quarters, household limitations and the inevitable anxiety about finances, one would expect in all these homes a record of dissension.

One couple was separated, and in another case the wife was made unhappy by her husband's unreliability and untruthfulness. The lives of three families were troublous. In one of them, the sick man was unkind to his wife; both of them occasionally drank too much; they accused each other of infidelity, and on one occasion each had the other arrested. In another family the husband, who also formerly drank heavily, was sarcastic to and about his wife, whom he felt overindulged the children. He said she "had no brains, so couldn't be expected to use them." The third man was said to be only irritable and to scold a good deal, making his family generally uncomfortable.

The father's illness did not however produce inharmony in all of the homes. Ten of the fifteen appeared to be normally happy. In one, the young father was paralyzed; his wife and child missed him greatly when he was in the hospital, both being much attached to him.

Father Works Out Family Budget

In another home, the presence of the father of a large family was a real asset. He eventually died of heart disease. It was he who worked with the visiting housekeeper on the family accounts and supervised the buying. He passed on the knowledge he had gained to the neighbors by working out their budgets. He said that if he had known as much about buying when he was younger, his family might have owned its home. He was so well liked that the neighbors gave him a surprise party on his birthday, presenting him with a linoleum rug.

Four parents in two families were blind. In one family the situation was complicated by deafness. This man, totally blind, had always supported his family by tuning pianos. He sustained a personal injury (was struck by an automobile) and received a settlement of $2,000. He invested $1,600 in a notion store. His partner defrauded him. His money gone, his earning capacity as a piano tuner gone, he became dependent.

Of the four men suffering from industrial accident, two were Hungarian and two Russian. All four had good work records and had been self-supporting until their accidents occurred. One had worked for fourteen and the other for nine years on the same job. A third man was an "A-1" employee, and the fourth was a good worker.

Three of the cases had been pending before the industrial commission for more than a year and were still unsettled at the time of the study. In the fourth case, an adverse decision was rendered by the supreme court after four years of litigation. The last man is the one who had been fourteen years in the same place. He was injured from a strain and became hypochondriacal during this long period of litigation.

In six families the mother was ill; one had tuberculosis complicated with cardiac trouble, three were suffering from venereal disease, one was blind, and another, rearing her only granddaughter, was old and rheumatic.

Even though the United Charities assured a sufficient income, the difficulties of organizing

A home without mother is often no home at all.

With father ill and with mother at work, John Joseph is lonely and underfed.

Lewis W. Hine

the household and the direction of children in these homes where the mother was physically incapacitated were well-nigh insurmountable.

Twelve-year-old Agnes found the burden of the household too much for her. While her mother was ill, and for several years after her death, she stuck to the job, mothering her four younger brothers and sisters. In time, though, she became impatient with her father's irregular work and bad management, which found him always in debt. When she became old enough, she got a job and boarded with a woman friend, where she had less responsibility, the children being placed by the juvenile court.

Children's Illness Also Brings Dependency

The bad physical condition of a total of nine children in three families, although they were self-supporting, necessitated the services of the United Charities, as well as the medical agencies. The recital of their condition gives a conception of the intensive work necessary, if they were to be made physically fit.

Myrtle, tonsils bad (refused a work certificate).
Henry, 9.9 per cent underweight; bad tonsils; thyroid.
Leta, 12.7 per cent underweight; tuberculous glands; thyroid.
Flora, 13 per cent underweight; bad tonsils; pneumonia.
Incinda, pneumonia.
John, undersized; glandular tuberculosis.
Thomas, glandular tuberculosis.
Vivian, deaf and dumb.
Parker, deaf.

Ignorance, limited income, language difficulty, and in some cases subnormality rendered parents in these families incapable of profiting from the medical resources of the community, had it not been for the assistance, encouragement and persistent oversight of the social case workers. Appointments were broken, dietary needs of children and plans for the children's improvement neglected month after month, and only the untiring efforts of the social case worker secured results in spite of, rather than because of, parents. This family illustrates the need of a family case worker in a community well provided with medical agencies:

Two children were deaf and dumb in the S. family; a third had ear trouble, diseased tonsils and poor eyesight. It was seven months before all these children were cared for, mental tests made to determine special abilities, and the children placed in a school for the deaf, where they received special training. Mrs. S., during this period, was delivered of her seventh child, and afterward received contraceptive information. Mr. S. was helped to find a position, and the family moved from the one dingy furnished room, in which they had been living, to a light four-room flat in a fairly good neighborhood of working people's homes.

Presence of Mental Disease Upsets Home

Ten men and seven women presented problems because of diseased mentality, although they could not be committed to an institution. Only by the most careful adjustment, however, could their environment be sufficiently controlled to permit of their discharging duties as parents in a meagerly acceptable manner. The diagnosis of these seventeen persons revealed

the problems; seven had dementia praecox; six, psychopathic personalities; two, alcoholic psychosis; one, cerebral arteriosclerosis, and one, psychoneurosis.

There were seven women whose unstable personalities constituted the main problem in their respective families. Mrs. H. was one of these five psychopathic personalities. She was pretty and graceful, and at 24 years of age had had two illegitimate children, had been twice married, once divorced, and had contracted venereal disease. She had an intelligence quotient of 105, but her judgment or common sense was only rated at 25 out of a possible 100. She was evidently highly sexed, weak willed and easily influenced.

In thirteen families, one parent was reported by the psychiatrist as of subnormal mentality. In four of these families the father, and in nine the mother, was mentally deficient. The difficulties in accomplishment with these surpassed those of any one group.

Mrs. A. was reported as a high grade moron, with a mental age of 10 years. She married, at 18, a young irresponsible man, who revolted because of her stupidity, personal habits and uncleanliness. She was incapable of caring for her two children and the home. She attended the school of domestic science on a scholarship, but was dismissed as dirty and stupid. She was admitted to a trade school at the University of Chicago, but was dismissed as incompetent to learn plain sewing. She was girlish, appealing and suggestible, but incapable of adhering to plans agreed upon.

In conclusion, it would seem that illness is one of the contributing causes of poverty. This illness may rob the family of its breadwinner; or it may place such a heavy additional burden, not only financial, but also one of mental stress, that it renders other members of the family incapable of earning their best wages.

If it is the mother who is ill, then the father is under stress and cannot earn his maximum wages; also the mother is unable to manage the house properly, and this augments the trouble. If the family is on the borderline of independence and the children become sick, that burden may carry the family over to dependence. Of course if there is mental illness, and the income is barely sufficient, the slightest emergency may make the family dependent.

Red Cross Honors Founder

THIS year the Red Cross is observing the centenary of the birth of the man who gave the impetus to the founding of that humanitarian organization—Henri Dunant.

Dunant was traveling as a tourist in Italy when the battle of Solferino took place, June 24, 1859, between Austria on one side and an alliance of France and Sardinia on the other. It lasted the whole day, leaving a casualty list of 22,537 killed, wounded and missing on the Austrian side and 17,191 on the allied side.

Impressed with the horror of the scenes on the battlefield, Dunant went to work among the wounded assembled in the little town of Castiglione. After his experiences there he wrote a book, "Memories of Solferino," which caused a sensation in Europe. It portrays vividly the terrible details of what he had seen. Then the author asks, "Can there be no means of founding voluntary aid societies to the end of giving or providing for the care of the wounded in time of war?" Further he expresses the hope that an international agreement will be ratified to serve as a basis for forming such societies, says an account in the *Red Cross Courier*.

A preliminary conference at which fourteen countries of Europe were represented, met at Geneva, Switzerland, in October, 1863. Resolutions were adopted concerning the neutrality of the wounded, of the hospitals, of the personnel and on the use of an identical flag for all countries.

Dunant visited rulers and statesmen in many countries of Europe seeking support for his idea and in August, 1864, the International Congress met in Geneva to consider the plan. On August 22, representatives of twelve countries signed the celebrated Treaty of Geneva "for the improvement of the fate of the military wounded in arms in a campaign." In compliment to Switzerland the congress adopted its flag with colors reversed as the insignia of the organization. The United States became a signatory of the treaty in 1882. Representatives had been present at the congress, however, and had furnished valuable information on care of the wounded as developed during the war between the states, then in progress.

Dunant was awarded the Nobel peace prize in 1901, after having lost his fortune and having spent the intervening years in misery and despair. He bequeathed his estate to the beneficent works of Switzerland and Norway. He died in 1910.

By Erna Dorothy Bunke

The Real Thing in Recreation Beaches

QUITE unlike the usual "red hot—have your fortune told—see the fat lady—roller coaster" type of amusement at public resorts is the program promoted by a well known real estate company at Manhattan Beach, N. Y.

From nowhere else has there come a report of an organized beach program so varied, intensive and interesting. The beach is open from May 30 to October 1. Daily attendance has been as high as 22,000 and last summer over 850,000 men, women and children came to play.

The beach is operated purely as a commercial enterprise, but there is a sincere effort to provide clean, wholesome, healthful, constructive play. The charge to enter the grounds is 50 cents for adults and 25 cents for children. After entrance all activities on the grounds, with the exception of bathing suits and lockers, are free.

Somewhere in the center of things stands a small white building with a large white sign, "Recreation Department." Here Hugo Seikel, director of recreation, may be found, when he isn't teaching a new game, or staging a swimming meet, or conducting some nice old lady to a shady seat near the water. Mr. Seikel has a trained staff of workers to assist him.

The physical equipment of the beach is excellent and complete. To meet increasing demands new facilities are constantly being added. It now contains:

12 punching bags
2 baseball fields
a running track
a concrete swimming pool
a wading pool
a children's playground
an outdoor auditorium
jumping pits

and the following courts:

30 handball
18 hand tennis
14 medicine ball
8 horseshoe
7 volley ball
6 tennis
3 basketball

Hand tennis is a new game that has been developed to meet the needs of those persons who find tennis and handball too strenuous. It has proved very popular.

There is something to do from morning till night for every member of the family. A cafeteria provides wholesome food, and there are plenty of comfortable chairs for rest.

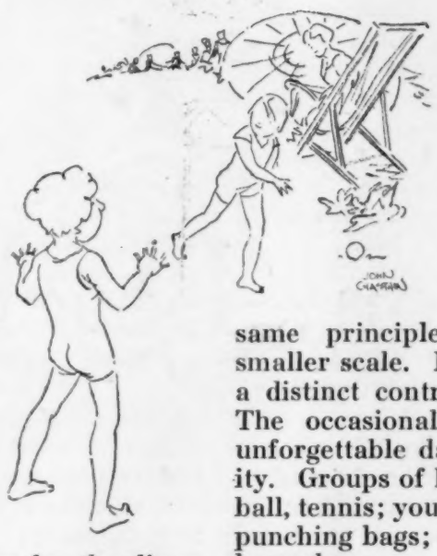
"People often come early and stay all day," Mr. Seikel explained with a friendly smile. "We regard this as a sort of health insurance—sunshine, fresh air, plenty of vigorous and joyous activity and peaceful relaxation."

There are many tournaments held in handball, quoits and tennis. These are attended by thousands, and the winners receive not only fame but silver loving cups properly engraved.

There are unusual relay races, kite days, carnivals for the younger groups, lollipop days

and balloon parades. Beach monograms similar to the college letters may be won in athletics.

The children's playground is interesting. It is a large sand area roped off from the rest of the grounds. It contains some simple apparatus like slides and seesaws. There are skipping ropes, playground balls, bright colored water balls, a wading pool and special low showers. The children often have sand craft exhibits on such fascinating subjects as a beach circus, a zoo and the house where Santa Claus lives.



Swimming meets are held for both junior and senior classes. These meets include distance swimming, diving, plunging, water sports and water stunts.

Swimming classes are held daily. Instructors, life guards and two first aid nurses are provided.

One of the unusual and spectacular features is the gymnastic drill. Three of these are given daily at 2:30, 4 and 5:30 under the direction of a trained physical education instructor. He sits on a platform with a megaphone and at the proper time blows a whistle. There is a wild scramble, gales of laughter and then the music starts. "One, two, three, four," shouts the director and a thousand arms move in unison or, if not in unison, at least in the right direction.

Usually about 500 or 600 men or women take part in this. As many as a thousand have been in a single drill! Last summer 52,000 took part in the drills during two months' time. If any person is in doubt as to whether or not he is physically fit to take certain exercises, he may consult the recreation department; then if he desires he may take some of the drills and rest during others. No one is compelled to do all the exercises, but once in the class, he must play the game. Any attempt at rowdyism or laughing at the other fellow is immediately stopped and as a result a proper respect is shown toward this activity. After the drill another instructor comes on duty and conducts relays, mass games and quiet stunts.

Brighton Beach lies next to Manhattan. It is owned by the same firm and operated on the same principles, although on a somewhat smaller scale. Both of these places are making a distinct contribution to the recreation field. The occasional visitor there may spend an unforgettable day following the tide of humanity. Groups of boys are playing handball, baseball, tennis; young men are vigorously thumping punching bags; older men are skilfully pitching horseshoes.

In other groups children are making fascinating mud pies; girls are playing ukuleles and singing camp songs; older women are sitting in the shady pavilion reading, talking or watching the waves splash against the rocks. A bit away from the group are young men reading poetry, youthful couples with youthful dreams wandering up and down the beach and young girls lazily lying in the sand and watching white clouds floating by.

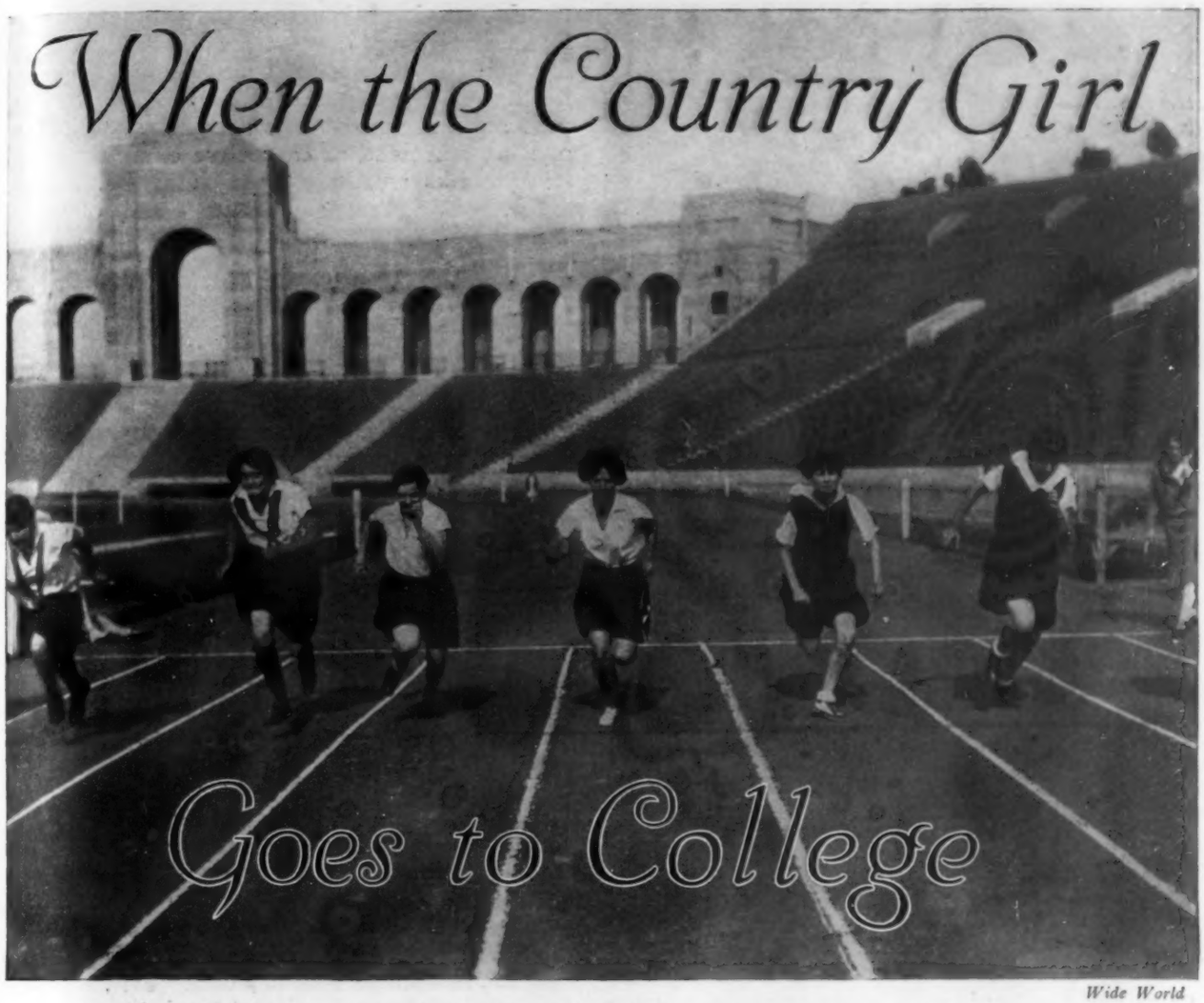
Richardson on Runabouts

THOSE members of the HYGEIA *family who read with enjoyment and profit Dr. Frank Howard Richardson's series on "The Nervous Child," since published in book form, will be happy to learn that Dr. Richardson's new* HYGEIA *series on "The Runabout Child and His Problems" will begin in the September number.*

Some of the problems to be discussed in the ten articles beginning next month are the runabout child's nutrition, weight, posture, eyes, tonsils and adenoids, hearing, teeth and habits.

Watch for the introductory article next month. More of Miss A. Louise Spaulding's clever silhouettes will illustrate the series.

When the Country Girl Goes to College



Wide World

A knowledge of healthful sports will help to erase the social differences that sometimes exist between country girl and city girl.

By Marie B. Ryan

I HAD been in my office only a short time on the opening day of college when a ruddy, nonsymmetrically developed miss of 17 came in. She had been told that all the girls must come to see me to arrange for their physical examination and plan for their physical training. Being a country girl, accustomed to doing what she was told, she came as early as she could on the opening day.

She introduced herself and told me that she had come to talk about "getting out of physical training." It is always interesting to hear that expression—"getting out of physical training."

"You see," she proceeded to explain, "I was raised on a farm, always outdoors, have good health, and I don't need any more physical training."

By this time I had had a chance to look at her. Apparently none of the antifat remedies had made the least appeal to her. Obviously her criterion of health was to have a good appetite and to boast of plenty of muscle. Very likely she had never been sick a day in her life, thus meeting another popular but untrustworthy criterion of good health.

Following this student there came another. She too wanted "to get out of gym." She was bedecked and besmeared, a spoiled child of a family which lived in a nearby town. Her claim for exemption was that she was not "able" to take physical training. This is another false notion all too popular in the public mind. A person who is lacking in vitality, who happens to have sore feet, or who is not by temperament given to exert herself, it is thought, should not be compelled to take physical training.

Here at the beginning I had had the two most common extremes found by every teacher of physical education for women. Here once again was demonstrated the popular notion of phys-

Wide World

Most girls soon learn to want a slender figure, to have poise, to be graceful.

ical education, a course of study consisting only of drills for and with dumbbells in a gymnasium shut off from outdoor life and outdoor interests. It is often called physical torture, I believe. The girl reared on the farm does not "need" such stuff, and the girl who is not inclined in the least to exert herself other than on the dance floor is not "able" to take it. This popular notion is false in every respect.

In the first place, physical education as it is now given to women in our colleges means far more than drills. It consists of constructive and cumulative work adapted to the needs of developing a college girl's body. It goes further than that. It takes in corrective exercises suited for specific disabilities. It develops through class work and demonstration a proper attitude toward one's body; it gives the girls a chance to develop health habits and health attitudes, at the same time teaching them the why and the wherefore of what they do. It is as pedagogically, scientifically, and psychologically planned and executed as is any other course in the college curriculum.

This popular notion about those who should not take gymnasium is based largely on a narrow conception of what is done in the gymnasium class. Many girls are not able to take regular work and are not required to take it. For them special classes, even individual work, is planned. This extra precaution is taken in the knowledge that it most frequently happens that the girl who thinks she is not able is the one most in need of corrective exercises and of health talks and better health habits.

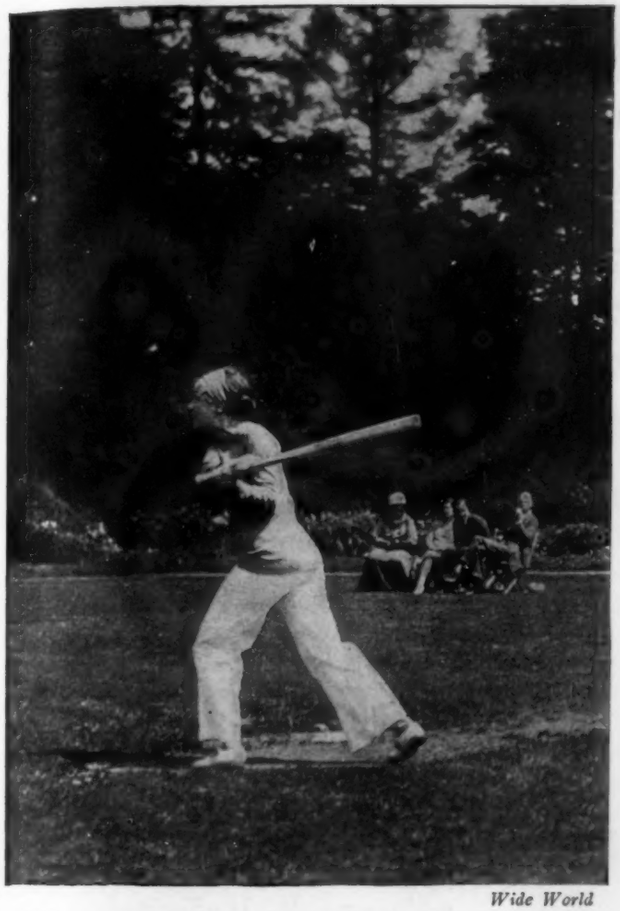
Last year we provided for all our girls. Those who could not for specific reasons take the regular work, who would not profit from corrective exercises in the gymnasium, were required to walk a certain number of miles each week. I went with these girls and saw that they walked. It was an interesting class. We became interested in the proper way to walk, how best to walk for endurance tests, and the like. We turned what seemed at first a boresome task into an interesting, worth while and informative hour.

Being connected with a college in which fully 50 per cent of the girls come from either the open country or the small town, a college right in the heart of the most rural of rural sections in the United States, I have been particularly interested in the physical education of rural girls. My experience has been like that of other teachers of the community, I am sure, in that to talk of a need of physical education to farm people is like taking the proverbial coals to Newcastle. Being hopelessly confused in the idea that recreation and exercise are the same, and believing that hygiene is the bunk, the rural people with whom I have come in contact are well meaning but seriously backward in this respect. For them, many of them at least, "P. T." in college is a necessary evil, a part of the curriculum that will not teach the girls to be better housewives or mothers, hence useless.

Health Least Effective of Rural Movements

By the passage of laws in more recent years requiring all teachers to have a certain amount of work in physical education, and by compelling all teachers to give some time to physical education in their schools, hope is revived that in this way we shall be able to sell our communities on the idea of what organized play, recreation and rural health mean to their welfare and happiness. It is a matter of education, and the school is the legitimate means of giving the idea to the community.

Rural health is the least effective of the rural movements for greater progress in farming communities. It is the poorest in respect to organization. It is the least sold. Dr. W. F. Draper, assistant surgeon general of the U. S. Public Health Service, estimates that the annual economic cost of preventable diseases in rural communities is well over four billions of dollars. Despite this cost, in 1923 there was available only $70,000,000 for health activities of city, rural, state and federal public health agencies combined; about one third of the amount spent



Wide World

The country girl must cultivate the ability to play with her whole body.

on funerals and coffins, and less than one twenty-second of the money spent on tobacco for that year.

It is unfortunate that rural people believe that their life in itself is wholly conducive to good health. It is unfortunate that they have the belief that training appertaining to physical development and welfare is needed by city men and women only. They confuse hard physical labor with physical training; they confuse the exercise of the major muscles required in doing farm work with exercise and recreation that make use of all the muscles, both major and accessory.

The life of the Middle Western farmer, for instance, is hard physically. He needs to be sold on the idea that in order to stand that hard work he must have a body trained to endurance and ready to respond to the needs of endurance, so that after the test it will not be so exhausted as to prevent further enjoyment of the finer and equally necessary things of life.

It is just before the conclusion of the growing period that most girls enter college. Already many of their health habits have been formed; already many defects have shown up as the result of many causes, some of which are inherited, others acquired. However, the fact that these girls are still in the growing and developing period enables them, if they will make a sufficient effort, to correct and overcome many physical shortcomings that will mean not only a longer and happier life but a life improved in quality.

So long as country parents remain ignorant of the necessity of health training, of hygiene and of the formation of proper health habits; so long as they mistake overdeveloped major muscles and a ravenous appetite for a good and a desirable physical condition, they are not going to send daughters to college with even a limited desire to get training in health. To talk with these parents is to discover that the majority of them want their daughters to have the advantages of a college education. But to them a college education is a training of the intellect alone. They think of higher education in terms of preparation for an occupation. Rural people are for the most part utilitarian; they like to think of education as something that can be exchanged for dollars. The peculiar psychology of the farmer, produced in turn by his environmental conditions, is not conducive to poetic or romantic endeavor. He still smiles when he hears a person speak of the beauty of the cabbages.

The young lady, therefore, who honestly believed she did not need to take physical education had reached her conclusion most logically, yet in utter ignorance of the real situation. A like situation met by the teacher of English would be somewhat more hopeless for the average college girl. It would be more hopeless largely because of the lack of outside pressure being brought to bear to induce girls to speak correct English. Most girls, on the other hand, soon learn to want a slender figure, to have poise, to be graceful. They soon desire to be able to participate in athletic sports, to win a monogram and eventually a sweater for prowess and excellence in contests. The English teacher must sell her subject against greater odds, and with a different and less concrete sales talk.

Rural Sickness Rate High

I prefer the country girl who comes in with an honest conviction that she does not need physical training to the one, from either the country or city, who thinks by shamming she will not have to take the work. A person honest in his convictions, although he may be wrong, is always more hopeful than the dishonest person who depends on assumed indifference or an imaginary superiority.

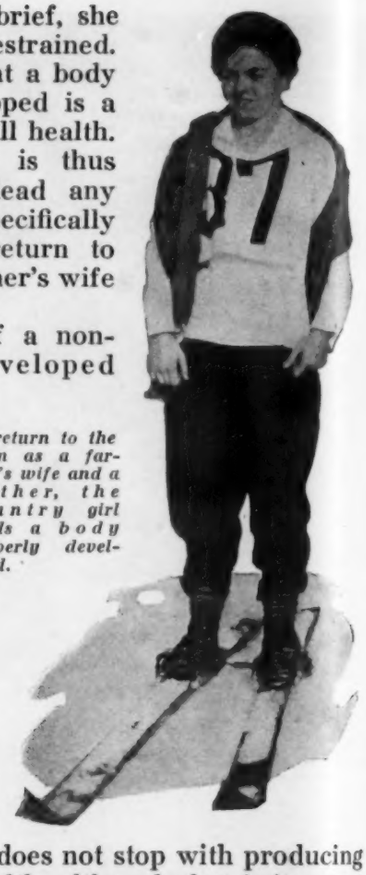
For many reasons my interest has been drawn particularly to the country girl who comes to college. I see through her a possibility of reaching the rural communities with a scientific and organized health program. The rural sickness rate, according to authorities, exceeds that of the city. Whether this is more largely attributable

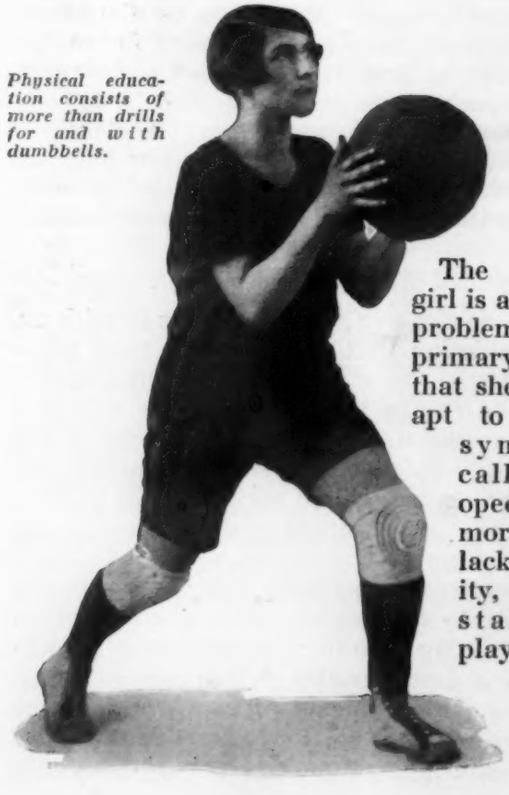
to the life lived by country people over which they have no immediate control, or whether it is because of their manner of living over which, if they were taught how, they might have some control, is debatable. It remains an obvious fact, however, that if they are taught better health habits they could build up greater resistance against the life they have to live and exercise some control over the more outstanding preventable diseases.

The rural population is more susceptible to such disease conditions as malaria, hookworm, constipation, adenoids, infected tonsils and defective teeth than is the urban population. Although it is true that the death rate of the rural population is lower than that of the city, the city death rate is steadily declining, whereas the rural rate has declined in recent decades only slightly. It is difficult to get these facts impressed on the present older generation. Our hope is to convince the mothers and fathers of the next generation.

The ordinary country girl comes to college with little knowledge of the necessity of getting a physical education. Her parents do not send her for that purpose, for reasons that have been mentioned. The country girl is therefore a problem somewhat different from the city reared girl, in that more city reared girls know of health habits, of scientific physical training.

To return to the farm as a farmer's wife and a mother, the country girl needs a body properly developed.





Physical education consists of more than drills for and with dumbbells.

All photos by Wide World

The country girl is a different problem for the primary reason that she is more apt to be unsymmetrically developed. She is more apt to lack the ability, for instance, to play with her whole body. In brief, she is awkward and restrained. We know now that a body improperly developed is a primary cause of ill health. The country girl is thus handicapped to lead any kind of life, but specifically handicapped to return to the farm as a farmer's wife and as a mother.

The question of a nonsymmetrically developed body does not stop with producing ill health, although that is its most serious result. It affects one's personality, a not to be minimized shortcoming particularly for a young woman. The person with poor health is going to have a cheerless demeanor; whereas one with good health will be optimistic and contented. Personality is aided or thwarted in proportion to the amount of surplus animal energy above what is needed for vegetative processes. A person with deficient energy is not going to have a dynamic personality. Therefore one's body may be a handicap in ways other than in health.

The country girl has control of her major muscles, but she lacks control of her accessory muscles, and those are the ones that give her suppleness and grace. There is, as it can be readily seen, such a thing as refining one's muscles, and the place to do this is in the department of physical education.

The personality of the girl who came into my office that first day was not particularly winsome, and throughout the year she never became a mixer on the campus. She remained odd and awkward. She was menial in her attitudes. She enjoyed being the servant of other people. She was a poor girl with a high type of honesty, virtue and ambition. It was necessary for her

to work; consequently she went out in town to live with a family. Girls who find it necessary to accept such work are usually permitted to postpone their physical education; some are permanently excused.

A Typical Case

The girl was ideal to have in the home for the work which she did. She was never bothered with gentlemen callers; she was right there to do the work at all times. Later she left this college and went to another, where she again went into a home to work for her board and room. A few months before she was to be graduated she was taken sick and died shortly afterward. Being interested in the case, I followed the girl's career zealously. The ending was sad; but not different from what was to be expected from the report of the physical examination given her that first week here. In outward appearance she was a healthy and, as they say in the Middle West, a "strapping" specimen; but when the test came she was not equal to it.

Obviously extenuating circumstances may have entered into this specific case; but during my years in this work I have followed too many cases to think of it as being particularly unique or exceptional. It was unique only in that the girl died before the end of her four years in college; beyond that it was typical.

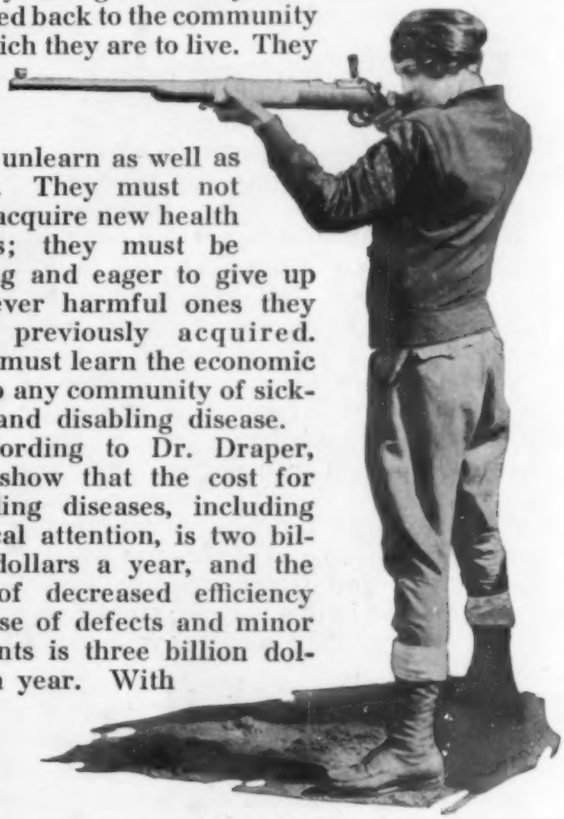
A well known physical director for men connected with one of the Middle West colleges said a few years ago that it was hopeless to try to teach the present mature men and women either how to play or the necessity of play. It was only a degree less hopeless to try to teach high school youngsters to play in any scientific sense. The real and only hope, he thought, was to teach college men and women who expect to teach in the public schools the necessity of play and recreation for a healthy and sane life, and depend on them to sell the idea to the children in their charge.

It is a backward movement surely enough; therefore a slow one as well. But I believe it is the most effective way. The farmer and his family in the United States are progressing as no other farmer in any other country is progressing. The general movement of progress is encouraging, but it is saddening to see the one lagging phase of that movement such an important one—rural health. Curiously enough the farmer is interested in the health and hygiene of his farm animals more than he is in the health and hygiene of his children.

There have been all sorts of Utopian dreams for keeping young people on the farm. These have not been effective dreams; for they have invariably lost sight of the human nature involved. No amount of hypnotizing argument could sell the idea to young people that country life with its past inconveniences was to be preferred to the bright lights of the city. Now we have stopped our dreaming and have settled down to attack the problem at its source. We are endeavoring to bring a satisfying economic and social life to the farmer and his family right on the farm. This endeavor is destroying forever, I hope, the difference between the city girl and the country girl, a difference largely assumed between their social stations. It will be deplorable to have the movement thwarted by inattention to and indifference toward the recreation and the health phases of the movement.

Saving Lives and Money

Country girls who go to college can do much toward aiding progress in these phases by learning as much as they can from the health facilities of the physical education department and by taking what they have learned back to the community in which they are to live. They must unlearn as well as learn. They must not only acquire new health habits; they must be willing and eager to give up whatever harmful ones they have previously acquired. They must learn the economic loss to any community of sickness and disabling disease.



According to Dr. Draper, data show that the cost for disabling diseases, including medical attention, is two billion dollars a year, and the cost of decreased efficiency because of defects and minor ailments is three billion dollars a year. With four billions charged to the account of rural communities as an annual economic loss for preventable diseases, isn't it the part of sanity to pay some attention to this enormous waste of life and money? Oh, if college girls who return to the farm would realize the great part they might play in changing this condition, how much unhappiness and suffering could be prevented!

The Latin that Doctors Speak

By Lloyd E. Smith

TO THE ears of many of their patients the professional language of doctors sounds foreign indeed. In the first place, the words used are of several syllables, and in the second place the syllables are confusingly unfamiliar. But it sounds impressive, if chaotic. Now and then some one will get the notion that the doctors do it just to be impressive and because they like to keep the knowledge of their profession a closed book to the general public. This, of course, is not true.

Knowledge in these modern days is closed to no one. But it takes time to acquire highly specialized knowledge such as that which entitles a person to a degree of M.D., and the reason for the doctor's "foreign" language is not concealment but the greatest possible clearness and precision. Doctors use words derived from Latin and Greek combinations because words formed in this way are stable; such words do not vary with the constant wagging of human tongues.

The Value of Latin

Latin (or Greek, which was discussed in this connection in HYGEIA for November, 1927) is a valuable language from which to select basic elements for scientific words because it is a "dead" language. For this reason the basic meanings of Latin words are fixed forever; there are no living tongues to alter those meanings or vary them in any way. The only possible meanings of Latin words or roots are those that occur in accepted Latin literature.

In a living language the meanings of words fluctuate. Variations are what keeps a language alive. But any one who uses Latin in any but the established manner is guilty of an error. That is the difference, and that is why Latin is excellent for basic parts of scientific terms.

Thus, it is readily established that the Latin prefix *ab-* shall always signify "from," something taken away from something else, or something apart from something else. An abstemious person, then, is one who stays away from strong drink—from the Latin *ab-*, away from, and the root of *temetum*, strong drink. Abstinence is a holding away from anything, from *ab-* and *tenere*, to hold. An abstract of anything is something pulled or drawn away from it, as "a powder consisting of the soluble principles of a drug, obtained by evaporation, and milk sugar." (Abstracts of drugs are twice as strong as the original drug.) An abscess is a going away, a gathering of pus, "formed by the disintegration and stretching of the tissues"—from the Latin *ab-* plus the participle of *cedere*, meaning to go off or retire.

One finds that throughout the English language those words that are traceable more or less directly to Latin always have the same basic elements corresponding to the accepted basic meanings. Thus, words from *tenere* will always have something to do with holding, and so on.

Some Names of Bones

The purpose of this article is not to give a course in physiology. The aim is chiefly to present some of the more interesting phases of the Latin element in the language spoken by doctors in the activities of their profession. This language is not by any means restricted to doctors—it merely happens to concern them more because of their daily contact with such things.

Names of the bones in the human body are largely Latin in origin. The occiput, at the back of the skull, is from the Latin *caput*, head, plus the prefix *ob-* (frequently changed to *oc-*,

og-, etc.) which means toward, before, over, against, or some similar indication of position. The sagittal suture of the cranium is named from the Latin *sagitta,* the word for arrow. Suture itself is Latin for a sewing or stitching.

The cheek bone or malar is from the Latin *mala,* cheek. The maxillary bones are the jawbones, from the Latin word for jaw, *maxilla.*

Vertebra is itself a Latin word, signifying a turning or changing—well named since the vertebrae are the spinal bones which give flexibility to the back and protect the spinal cord. The cervical vertebrae, to a good Latin scholar, are those of the neck because *cervix* is the Latin word for neck. The word cervix is also used in physiology to describe any restricted necklike part, as the narrow lower end of the uterus. Similarly, the thoracic vertebrae are those in the region of the thorax or chest, and the lumbar vertebrae are those in the lower part of the back, from the Latin *lumbus,* loin.

Scapula is itself the Latin word for shoulder-blade. Likewise the humerus (better Latin would be *umerus*), the bone of the upper arm, while *ulna,* the forearm, is the Latin word for elbow. The femur, or thigh bone, is the Latin word for thigh. And the Latin word for kneecap or kneepan is still kept in physiology—the patella. Fibula and tibia, other bones of the leg, are also pure Latin.

Latin Names for Diseases

The names of many diseases are Greek in origin, as was seen in a previous article. But there are important Latin names, too. The Latin word for fever is *febris,* from which the common medical word febrile is obtained. Febricity is a state of being feverish, to febricitate is to have a fever, and anything febrific is that which causes fever, while something febrifugal is that which drives fever away (notice how the latter part of the word resembles fugitive, some one who flees).

The appendix has a Latin name, *appendix vermiformis,* otherwise known as the vermiform appendix. The condition known as appendicitis is inflammation of the appendix, and appendectomy is surgical removal of the appendix. The term vermiform means that it is shaped like a worm, from the Latin *vermis,* worm.

Venereal diseases are so named from Venus, the Roman goddess of love. She particularly typified sensual love. Gonorrhea is a Latin word coming originally from the Greek. Syphilis comes from Syphilus, the Latin name of a shepherd in an erotic poem by Fracastoro, written in Latin.

Lumbago, rheumatic pain in the lower part of the back, is so named from the Latin *lumbus,* meaning loin. Sciatica is principally Latin, naming neuralgia of the sciatic nerve, in the hip. Rheumatism is from the Latin *rheumaticus,* meaning "troubled with rheum." Rheum is a flowing, as of catarrh, in a cold. In older times rheumatism was a flux or catarrhal condition; later the word came to be applied to the constitutional disease involving various pains.

To make this discussion more complete, but without any attempt to be as inclusive as a dictionary or genuine glossary, some of the more interesting words of Latin origin frequently used by doctors will be listed here in alphabetical order with brief indications of their Latin origin and what is interesting about it. Complete definitions are not given.

An Abridged Glossary

Accretion signifies a growing together. *Adhesion* is sticking together. *Adipose* is from the Latin *adeps, adipis,* fat or grease. *Adrenal* is Latin signifying near a kidney, from *renes,* the kidneys. *Afferent* is that which brings or carries toward. *Annular* is ring formed. *Ante cibum* is Latin for before eating, or before meals. *Ante mortem* is Latin for before death. *Ante natal* means before birth. *Ante partum* is Latin for before delivery. *Antrum,* a bone cavity, is the Latin word for cave. *Aperient,* a mild laxative, is from the Latin *aperiens,* an opening. *Aura* is the Latin word for breath, or a breeze. *Auricle* is the Latin diminutive of *auris,* ear, and denotes the external ear.

Bacillus is Latin for a little stick, because of the shape of many bacilli under the microscope. *Benign* is from the Latin word for kind, as seen in the everyday word benignant; as applied to tumors it means not malignant. *Bi-* is a Latin prefix meaning two or double. *Biceps* in its Latin significance means a two-headed muscle. *Biscuspid* means with two points. *Bifurcate* means forked. *Bilateral* is two sided. *Buccal* means pertaining to the cheek, from the Latin *bucca,* cheek. *Bulla,* a blister, is the Latin word for a bubble.

Calcareous means pertaining to lime, Latin *calcarius;* hence, calcify, to turn into lime. *Calculus* is Latin for a stone. *Callus* is from the Latin for hard, or callous skin; compare *callous. Calorie* is from the Latin *calor,* heat. *Capillary* signifies hairlike. *Caries* is Latin for decay. *Cartilage* is the Latin *cartilago. Casein* is from the Latin *caseus,* cheese. *Centi-* is a prefix denoting a hundred or a hundredth part. *Cerebral* is from the Latin *cerebrum,* brain. *Cervix* is the Latin word for neck; hence, cervical, pertaining to the neck. *Cicatrix* is Latin for a scar. *Cilia,* Latin plural of *cilium,* means short hairs and eyelashes. *Clavicle,* collar bone, is from the Latin *clavicula,* a little key. *Cohesion* is a sticking together. *Comminuted,* broken into small pieces, is Latin for making less or smaller. *Concrescence* is a growing together. *Congenital* means present at birth, born with. *Constipate* is from the Latin for a crowding together. *Consumption* means a wasting away. *Continence* is a holding in, self-restraint. *Contract* is to

draw together. *Cornea* is from the Latin word horny; likewise, *cornu*. *Corpuscle* is from *corpusculum*, a little body. *Cortex* is Latin for bark, outer layer. *Cuneiform* means wedge shaped. *Cusp* is a point. *Cutaneous* and *cuticle* both come from the Latin word for skin.

Delirium is from the Latin *delirare*, to rave. *Delirium tremens* is trembling delirium. *Dental* and *dentine* are from *dens, dentis*, a tooth. *Depilatory* is that which removes hair; *pilus*, a hair. *Detergent* is that which wipes off or rubs away. *Dexter* is Latin for the right hand. *Digestion*, in its Latin meaning, is a process of arranging, separating, dissolving. *Dorsal* is pertaining to the back, from *dorsum*, back. *Duodenum* is named from the Latin *duodeni*, meaning twelve each, so called because its length is about that of twelve fingers' breadth.

Ensiform means sword shaped. *Erratic* means wandering. *Eruption* is a breaking out. *Exacerbation* is most intense irritation. *Excision* is a cutting out. *Excrescence* is a growing out. *Extract* is that which is drawn out. *Exude* is to sweat out.

Febrile means pertaining to fever. *Filiform* means thread shaped. *Fistula* is Latin for a pipe. *Flux* is a flowing. *Funis* is Latin for a cord.

Genital means pertaining to birth. *Gustatory* means pertaining to the sense of taste.

Hirsute, hairy, is the Latin *hirsutus*, rough with hair. *Humid* is from *humidus*, moist; also, *humidity*.

Icterus is Latin (from Greek) for jaundice. *Ileum* is Latin for the groin or flank; hence, *iliac*. *Inflammation* is a setting afire. *Infra* is Latin for beneath. *Innominate* means without a name, as applied to the hip bone, an artery from the aorta, etc. *In vivo* means within the living body. *Involution* is a rolling or turning in.

Jejunum is from *jejunus*, empty, because found empty after death. *Jugular* is from *jugulum*, collar bone.

Labia is Latin for lips. *Lacrimal* is from *lacrima*, tear. *Lactation* is from *lac, lactis*, milk. *Lesion* is a hurt or injury. *Ligament* is something that binds. *Lumbar* is from *lumbus*, loin. *Lunacy* is from *luna*, moon, which was believed to induce insanity. *Lymph* is Latin for water.

Magnum (in *os magnum*, etc.) is Latin for large. *Malignant*, as opposed to benign, means something that is evil or harmful. *Malleus*, one of the ear bones, means hammer. The prefix *mal-* (as in malnutrition, etc.) means bad. *Materia medica* is medical matter, the science of medicines. *Matrix* is from *mater*, mother. *Maxilla* is Latin for jaw bone. *Medulla* is Latin for marrow. *Molar* is from *mola*, mill. *Morbid* is from *morbus*, disease. *Morphine* is named from the Roman Morpheus, god of sleep. *Mortal* can be traced to *mors, mortis*, death; so also *mortification* and *mortuary*.

Nasal is from *nasus*, nose. *Non-* is a prefix denoting without or a negative. *Nux vomica* is literal Latin for the vomit nut, being a poisonous seed from which a strong drug is obtained.

Ocular is from *oculus*, eye. *Oleaginous*, oily, is from *olea*, olive (olive oil). *Omni-* is a prefix denoting all, as omnivorous, eating all kinds of food.

Pectoral is from *pectus, pectoris*, breast. *Pedicure* is care of the feet, as manicure is care of the hands. *Pituitary* came from *pituita*, phlegm or mucus, because it was formerly believed that this gland secreted the mucus of the nose. *Plexus* is Latin for a network or twining, as of nerves in solar plexus. *Pons* is Latin for a bridge. *Post* is Latin for after, as in *post mortem*, after death, and *post cipium*, after eating or after meals. *Posthumous* is a coming after (i. e., after the death of the father). *Pre-* is a prefix denoting before. *Pulse* came from the Latin for a beating or pulsation.

Quarantine, ultimately traceable to Latin, first meant forty days, because that was originally the fixed period of quarantine regardless of the disease.

Racemose means full of clusters. *Radium* is from *radius*, ray. *Ramus* is Latin for a branch. *Re-* is a prefix denoting again, as *recrudescence*, becoming raw or sore again. *Renal* is from *renes*, kidneys. *Restiform* means rope shaped. *Reticular* means netlike. *Rigor mortis* is the rigor of death.

Salubrious is from *salus*, health. *Sanitary* is from *sanitas*, health, as also *sanitarium*. *Sebaceous* is from *sebum*, tallow. *Singultus* is Latin for hiccups. *Sinus* is Latin for a bent surface or fold. *Somnambulist* is from *somnus*, sleep, and *ambulare*, to walk. *Soporific* means producing sleep. *Sub-* is a prefix meaning under or below. *Succus* means juice; hence, succulent. *Super-* is a prefix denoting above or over. *Supra-* also means above. *Suture* is from Latin for a sewing.

Talus is Latin for the ankle. *Tincture*, an alcoholic solution of a nonvolatile substance (volatiles are spirits), in its Latin sense signifies a tingeing or dyeing. *Torticollis* is a twisted-neck condition. *Toxic, toxin*, etc., are from Latin *toxicum*, poison.

Ultra- is a prefix denoting beyond. *Unciform* means hook shaped. *Uni-* is a prefix denoting one. *Uvula* is Latin for a little grape.

Vaccination comes from *vacca*, a cow, because the vaccine is obtained from a process in which cows play a part. Usually smallpox vaccine is meant, although there are others. *Vagina* is Latin for sheath. *Vas* is Latin for vessel; the prefix is *vaso-*. *Ventral* is from the Latin for belly. *Ventricle* comes from the word for a little stomach. *Vermicide* is a worm-killer. *Vermifuge* is a worm-chaser. *Volar* is from *vola*, palm of the hand.

Lewis W. Hine

Every one knows that a bright child is capable of an even greater variety of mischievous activity than the child whose intelligence is less active.

The Relation of Character to Intelligence

By Ira S. Wile

EDUCATION must have a purpose. It is difficult to believe that the vast educational institutions have been established without the certainty of their full value of education. Washington deemed education the corner-stone of a republic. This idea carries with it the thought that democratic people need to be educated into the principles and practices necessary for political freedom.

A republican form of government, however, depends for its successful existence on more than familiarity with history and civics, and more than is ordinarily regarded as the three "R's." Furthermore, the essence of living together under a republican form of government or, indeed, under any other form of social organization, demands the highest possible development of the individuals who are entering into the scheme of communal living. The school system as a whole is designed in theory to develop young people into adults capable of living together intelligently. This makes one goal of the educational system good citizenship.

Good citizenship carries with it certain implications regarding good health, mental activity, industry, capacity for self-control and willingness to dwell in peace and amity with one's neighbors. There is thus behind the idea of good citizenship a sense of the importance of character. Hence, character development is frequently said to be the main aim of education.

Intelligence is primarily learning power and in a larger sense it refers to the power of individuals consciously to adapt themselves to new situations. Intelligence is a vague term although most of us understand what we mean when we use the term. It is as difficult to define as electricity or love, although we speak of these without hesitancy. Intelligence is one phase of human capacity. It involves processes of thought and imagination. It is an ability to distinguish likenesses and differences, a capacity for analyzing and synthesizing, for taking ideas apart and putting them together. It deals with thinking and not with feeling. It deals with thinking as applied to effort, to use, to industry, to self-direction, to sharing in social relationships. To this extent intelligence may be regarded as a born instrument of the human mind. Its use as an instrument and the purpose

for which it is used determine whether the intelligence is of value to society or not, as well as whether it aids the development of personality along lines acceptable to the individual and his community.

Intelligence varies in different persons. The intellectual capacity is more or less determined at birth. One can never learn beyond his capacity to learn. He may learn much less, however, than his inherited brain power would promise. Intelligence ranges from feeblemindedness and weakness little above the level of the vegetable to the maximum wonder-powers of attainment that dwell in potential geniuses.

Do the most intelligent possess the finest characters?

Are the mentally defective essentially and necessarily weak and defective in character?

Even though we must recognize that our judgments concerning character are based on the accepted standards of behavior in a community, it is everywhere apparent that the mere possession of a brilliant mind does not insure high character, any more than does the lack of even average mental capacity make necessary an inferior type of character.

There was a time when men believed that moral standards and abilities to function on a high moral plane depended largely on the intelligence to grasp the meaning of moral laws and principles. In that era, not so long distant, to state that a person was mentally deficient appeared to be a satisfactory explanation for a large variety of faults in behavior and deviations from acceptable social standards.

Most Delinquents Have Average Intelligence

If there were a direct relationship between intelligence and character, one would expect to find a high percentage of mental defectives among delinquents, and a practical lack of brilliant minds among violators of the law. Unfortunately this is not the fact. Studies of prisoners in jails and reformatories, of children who have been brought in contact with juvenile courts, of inmates of various types of public homes for children, have shown conclusively that the distribution of intelligence among the inmates differs little from the ordinary distribution of intelligence among similar groups of boys and girls and young men and women who are living under ordinary conditions.

In other words, intelligence is not a dominating factor in determining behavior forms, which, in turn, are reflections of inner character. It is astonishing, but none the less true; that recent studies indicate that the level of intelligence of the draftees examined during the World War was not always as high as the intellectual levels of persons to be found in our jails, reformatories and penitentiaries.

If intelligence is not a direct determiner of character levels, it at least serves as a basis of indicating the level at which delinquent behavior may be expected. The higher the degree of intelligence in general, the more selected, complicated and carefully organized is the form of delinquency. Low types of intelligence are more likely to practice burglary and commit assaults than to attempt swindling, forgery and other fraudulent transactions. There is a marked relationship between the manifestations of character and intelligence even though we must not take it for granted that character parallels mental ability.

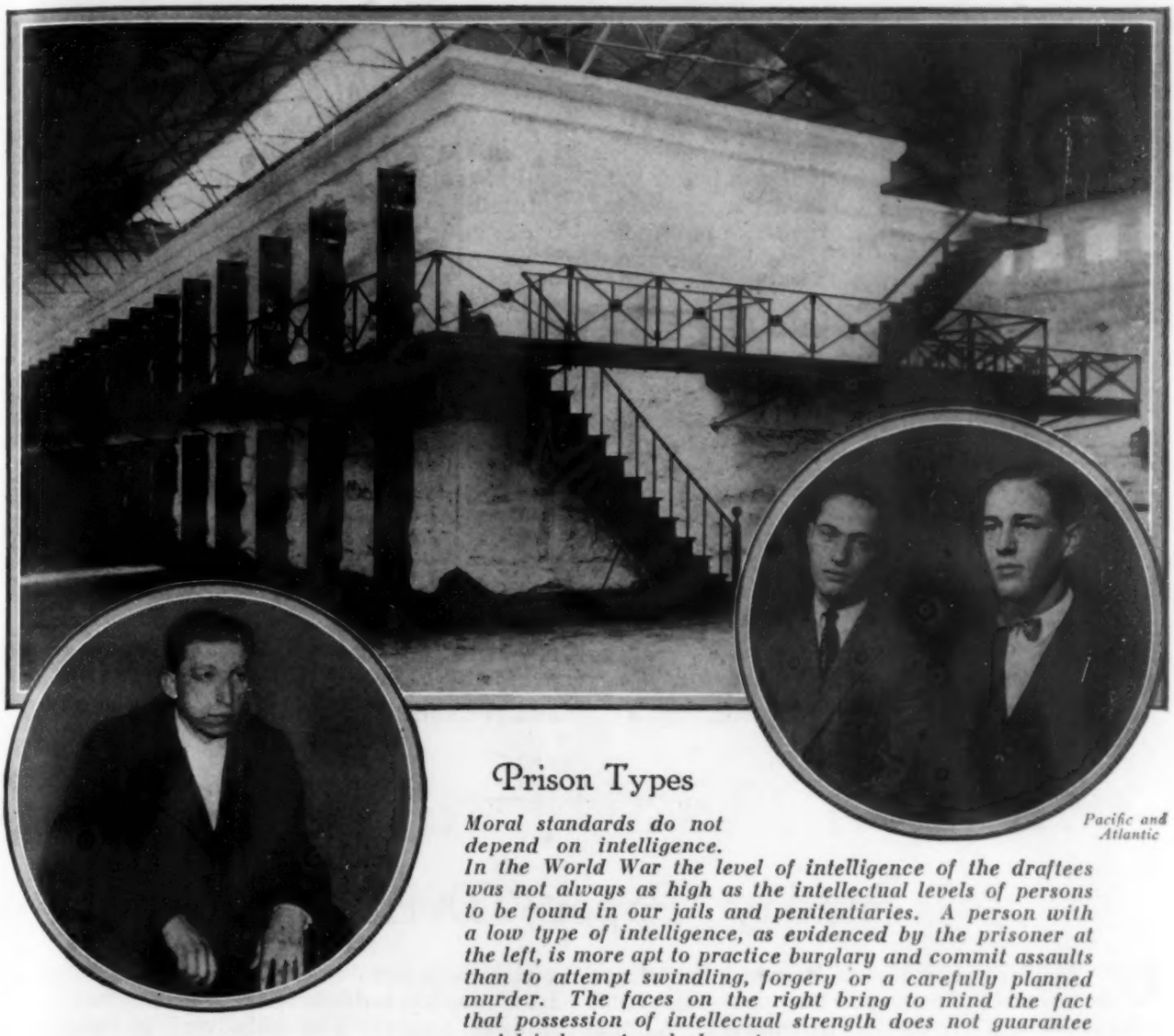
School systems are, therefore, confronted with an unusual situation. They have the definite purpose of assisting youth in the development of character that will be acceptable and that will have some practical relationship to the ideals of the age. Many think that the school works only in terms of the intellectual faculties. Fortunately school effort is not limited to the intellectual approach. The mere mastery of reading, writing and arithmetic, of geography, grammar and spelling does not essentially develop character unless there is a definite effort to relate the principles of living and ideals of behavior to the actual subject matter that is being taught.

Teacher's Example as Important as Lessons

The patterns of teachers and the suggestions that arise from their ways of meeting life may be of greater importance than the lessons of any week. This fact becomes more significant when one realizes that the child at school is more than an intellectual machine. The entire child goes to school—his body, his mind and his soul. He feels and acts, and is not merely a thinking being. All his inheritance, his elements of culture as derived from his home and surroundings, are present in the classroom. It is hoped by the use of his intelligence to transform these elements into something of particular social value. It is desired to crystallize within him certain ideal systems that he will come to accept as his own and to organize into his daily thought and activity. This, after all, is the core of the problem of character education.

Theoretical courses making merely an appeal to intelligence frequently possess less value than organized games and sports in which ethical principles must be lived. There is the possibility for a larger degree of character education in baseball, football, basketball, tennis and other athletics than in many of the major courses which are depended on to carry an indelible message into the minds of youth and to write on the tablets of memory a code of character.

Similar methods of training applied to living and experience in industrial educational fields



Prison Types

Moral standards do not depend on intelligence.
In the World War the level of intelligence of the draftees was not always as high as the intellectual levels of persons to be found in our jails and penitentiaries. A person with a low type of intelligence, as evidenced by the prisoner at the left, is more apt to practice burglary and commit assaults than to attempt swindling, forgery or a carefully planned murder. The faces on the right bring to mind the fact that possession of intellectual strength does not guarantee social judgment and character.

Pacific and Atlantic

yield excellent material for promoting character. It should not be assumed that a dull child and a bright child are different in their organization beyond the variation incident to their inherent intellectual powers. Too frequently one expects much more of a bright child than of a dull one because it is thought that the possession of intellectual strength guarantees a finer expression of social judgment and character responsiveness. Every one knows that the bright child is capable of even a greater variety of mischievous activity than the child whose intelligence is less active. Frequency of expression and the mode of expression may cast light on intelligence but do not determine what the eventual character is to be in terms of uprightness, leadership, integrity, cooperative living and human sympathy.

The school system as a social instrument has a definite part to play in fostering education. It should recognize primarily that it is the whole child that goes to school and not merely a learning machine. It should appreciate that the essentials of character are deeply hidden in the whole being of the child. Grasping the idea that character is determined on the basis of social judgment, it is seeking to inspire children with the principles of right living, right thinking, and, indeed, right feeling, without stressing character, as such, to be an end.

Character is a by-product of living. To live merely to be good destroys the beauty of living. To live a life in truth and beauty constitutes goodness. Character arises from the essential worth of truth, beauty and goodness as applied to social groups. Character as an essence would have little value to an isolated individual never in contact with another human being. The social sense is a thing apart from intelligence. Differing cultural levels evolve different standards of character and this necessitates forms of training to impart the social judgment of the community as applied to the individual activity. This is the main developmental factor. It may

require more time to impress social laws on the dull than on the bright, but the deep springs of character of both are fed from the same source, regardless of the depths at which they are buried by intellectual layers.

Man is more than his intelligence although he has the possibility of becoming a better man through the possession of a larger degree of intelligence. We have little evidence to indicate that man as a thinking creature has advanced much during the past hundred thousand years. There is little evidence, likewise, that he has undergone marked transformations of character. There are some brilliant men who have manifested the highest type of character and there are those who, with limited intellectual power, have been equally fine in spirit, in sacrifice and in love for mankind. There have been dullards whose lives have been spent in the highest service to humanity, who have manifested other traits of character making man rejoice in his own humanness; and there have been some fine minds whose brilliant intellects gave promise of unusual character that have betrayed their fellow men and have degraded all that man holds high, violating the best standards of character by which men live.

Let us, therefore, consider character in terms of its own values. Let us not relate character only to intelligence. Let us remember that "handsome is as handsome does" and that life reflects vital principles whose expression calls for more than an intellectual approach to man and his relationships.

Intelligence may enable one to learn from books and from experience. It may fill a storehouse of memories, of facts, of ideas and of principles, but character is not a storehouse. It is an activity. It is not the repetition of ideals. It is the living of them.

The hope of the race is raised by virtue of the fact that fine characters and rich living are not dependent on exposure to books and to teachers. School systems make their contribution to character education because they have the opportunity of bringing youthful creatures in touch with the very foundations of communal living. The school system exposes the reality of life and enables youth to observe, to reflect, to meditate and to choose. Out of the welter of thought and experience children of all degrees of intelligence derive principles and organize them into their being so that they may be expressed organically and permanently as character.

Sunday Paper Dermatitis

OF THE idiosyncrasies of human beings there is no end. One man's harmless enjoyment may cause another endless discomfort. Witness the ubiquitous rotogravure section of the Sunday paper, avidly scanned at thousands of breakfast tables, which has now been indicted as a cause of a severe irritation of the skin of certain sensitive persons.

This novel week-end dermatitis was described by Dr. Edward A. Oliver, of Chicago, at the recent meeting of the American Medical Association in Minneapolis. Dr. Oliver had collected fifteen typical cases from the practice of several Chicago physicians.

In each case the victim was assailed with severe itching, redness and slight scaliness of the skin about the face and neck. The disturbance appeared regularly Sunday night or Monday morning and wore off by Thursday or Friday, just in time to flare up again the next week-end.

All the ordinary causes of such dermatological distress were considered, including foods and all kinds of substances known to be irritating when applied externally. Finally exhaustive studies of the activities of the patients were made and it was found that the only way in which their lives on Sunday differed materially from the week-day routine was in reading the Sunday paper. The only way in which the Sunday paper differed from every day papers was in the colored sections. The comics were exonerated by tests.

Only the rotogravure was left. Tests made by rubbing the dry color used in the manufacture of the rotogravure ink into the skin soon identified the offending substance. The typical inflammation appeared. When pieces of the colored section were placed directly on the skin, the area covered was irritated while adjacent parts were not affected. The patients stopped handling the rotogravure sections of the papers and were free from the skin trouble.

Further tests were made by Dr. Oliver on his own skin, which failed to show the reaction. Investigation at the newspaper plant and ink manufacturing department failed to disclose any cases of the disease among the employees. This proved that only rare persons are sensitive to the ink. Ordinary printer's ink has no such effect, Dr. Oliver pointed out.

Analysis of the dry color in the ink showed that it contained paranitraniline, a derivative of benzine well known as a skin irritant.

Sunlight Treatment for SURGICAL TUBERCULOSIS

By

R. I. Harris

DURING the past decade we have come to realize in a striking fashion the importance and usefulness of sunlight in the treatment of disease. This new field of knowledge has been opened chiefly as the result of studies on the use of light in two diseases—rickets and tuberculosis. The story of light in relation to rickets has been told elsewhere by writers more competent than I to deal with it. The story of tuberculosis and its cure by sunlight is equally fascinating, though somewhat less dramatic, and may with profit be outlined briefly in the present article.

Let us first glance at the nature of the great problem of tuberculosis, particularly that form in which the disease attacks the bones and joints. It is in this form, commonly called surgical tuberculosis, that light has been used with such conspicuous success. Tuberculosis arises as the result of the invasion of the body by tubercle bacilli. These enter the mouth on droplets coughed out by persons suffering from active pulmonary tuberculosis. From the mouth they pass with the inspired air to the lung, where they are deposited in the terminal air spaces. There they set up a primary focus of tuberculosis.

The patient's resistance may be sufficiently great to stamp out this infection; in which case the damaged lung is repaired by scar tissue. Frequently, however, the fight is not so simple. The primary focus spreads. It not only invades the tissues surrounding the part first attacked, but from it tubercle bacilli escape and float in the lymph stream to the nearest lymph gland, where they set up a fresh focus of tuberculosis. From this glandular focus, in turn, tubercle bacilli again escape and infect the next lymph gland in the chain. By a series of such steps the whole of the great lymphatic chain at the root of the lungs becomes invaded by tuberculosis. In many cases the patient succeeds in overcoming his infection even at this stage, but in others progression continues, and tubercle bacilli are finally poured into the blood stream, either by the direct rupture of a tuberculous gland into a blood vessel or by drainage of the infected lymph along the thoracic duct into the subclavian vein.

Once in the blood stream the tubercle bacilli are carried far and wide throughout the body. Fortunately we have great powers of defense against them, and most of the organisms are killed before they have the opportunity to do

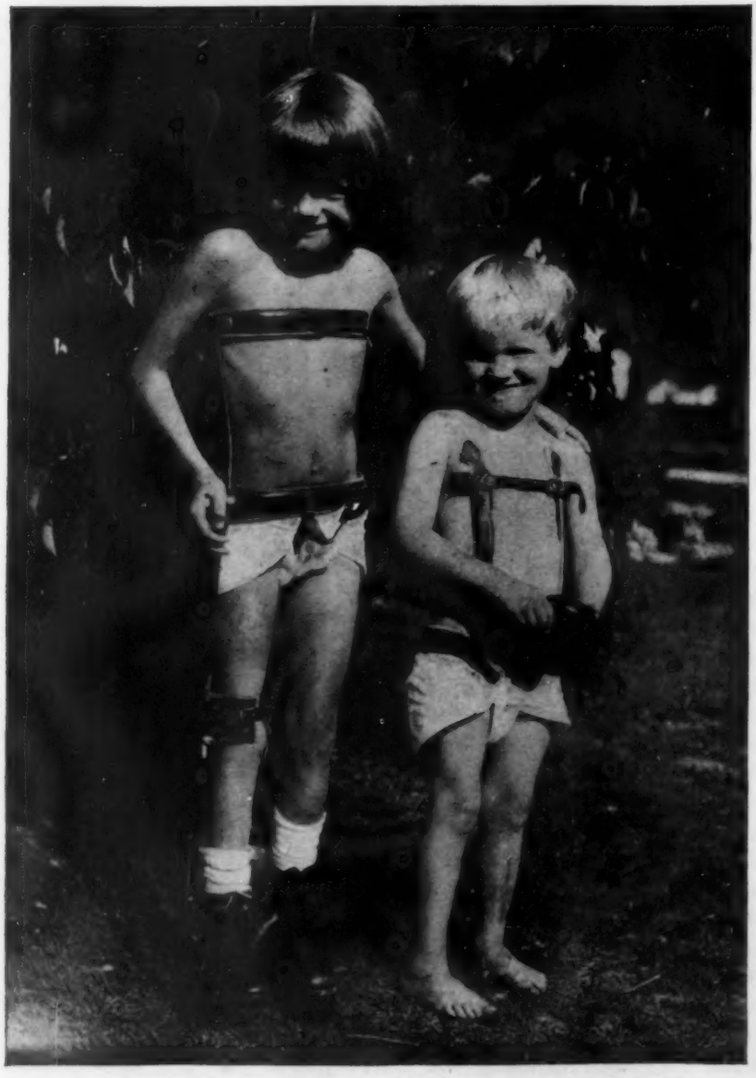
any damage. Here and there, however, clumps of them manage to settle out and establish new foci of tuberculosis widely removed from the primary focus from which they have arisen.

A common place for such secondary lesions to occur is in joints or in the ends of bones near joints, particularly when the disease occurs in children. Bone and joint tuberculosis is, therefore, a serious problem, since it represents tuberculosis in its generalized form in contrast to the localized form, which is limited to the area first invaded.

In the treatment of tuberculosis we unfortunately lack any powerful and rapidly acting therapeutic agent. We have no vaccine to protect us against its onset, as we have for smallpox; we have no antitoxin to neutralize its effects, as we have for diphtheria, and we have no insulin to tide us through the period of illness, as we have for diabetes. We are forced to rely for cure on the patient's own mechanism of defense. Long years of experience have taught us that we can enhance the patient's resistance by various measures, and of these the two of greatest importance are rest and sunshine.

In a tentative fashion sunlight has been used for the cure of disease since the dawn of history, but it was not until the middle of the nineteenth century that anything resembling accurate use was made of it. In 1845 Bonnet, a surgeon of Lyons, noted its beneficial action on white swelling of the knee, a disease we know to be tuberculous. In 1893 Finsen of Copenhagen published the results of his investigations on light in the treatment of skin diseases, particularly tuberculosis of the skin. In 1903 Rollier opened at Leysin in Switzerland the first institution for the treatment of surgical tuberculosis by means of sunshine. Since 1903 a vast amount of experience has accumulated from which we have learned that the sunshine exerts an almost specific effect on tuberculosis.

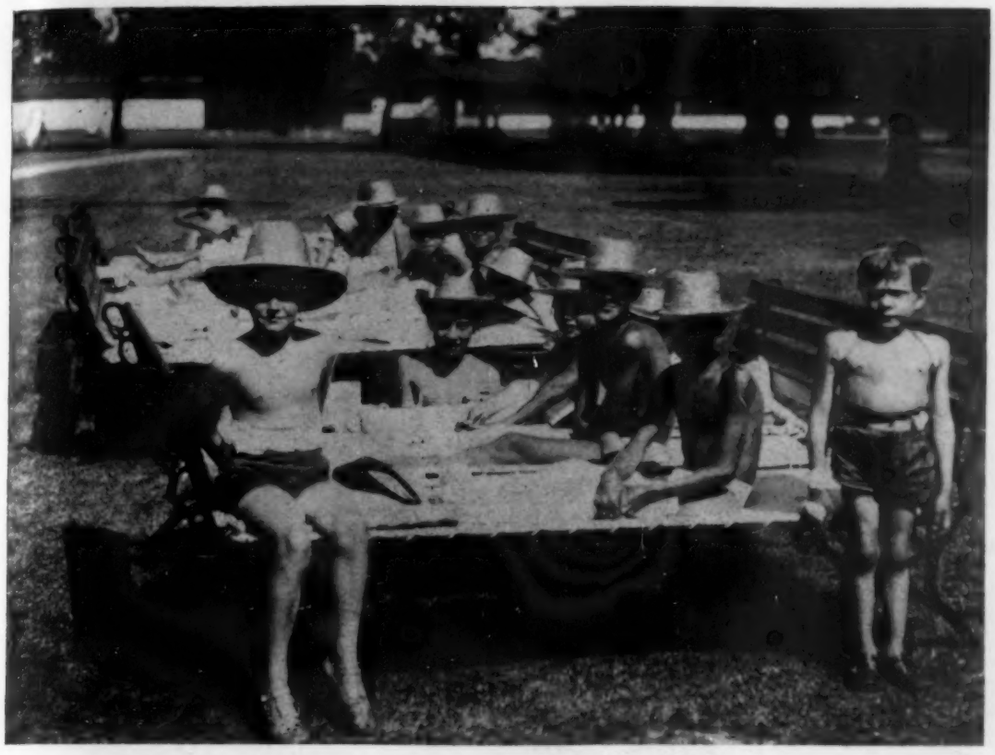
Our knowledge of its beneficial action in tuberculosis is based almost entirely on empirical evidence. By this I mean that by the method of trial and error we have stumbled on the fact that it will cure tuberculosis. For years we have been exposing tuberculous patients to sunshine and have learned that they get better more quickly, more certainly and with less damage to the diseased parts than in any other way. We do not yet know clearly how it acts. It does not act directly on the diseased focus. In most cases this is so deeply situated in the body that the sun's rays cannot penetrate to it. Its action is indirect. Moreover, it is only the violet and ultraviolet part of the sun's spectrum that is of great benefit.



Two young convalescents from surgical tuberculosis continue their sunlight treatment.

As far as we are able to determine at present the cure of tuberculosis by means of sunlight is dependent on the changes it produces in the skin. The rays of short wave length stimulate the pigment cells in the skin. As a result, the skin becomes a deep, rich brown, the familiar tan that one brings back from a summer's vacation. Coincident with this tanning of the skin there occur profound changes in the metabolism of the patient; changes that are as yet beyond our powers of measuring, but that are demonstrable by the evident improvement in health that accompanies them. As a result of these metabolic changes the patient is enabled better to overcome his tuberculous disease.

The importance of the action of the sun on the skin leads us to expose these patients unclothed directly to the sun's rays. Exposure through glass will not do, since glass cuts out the



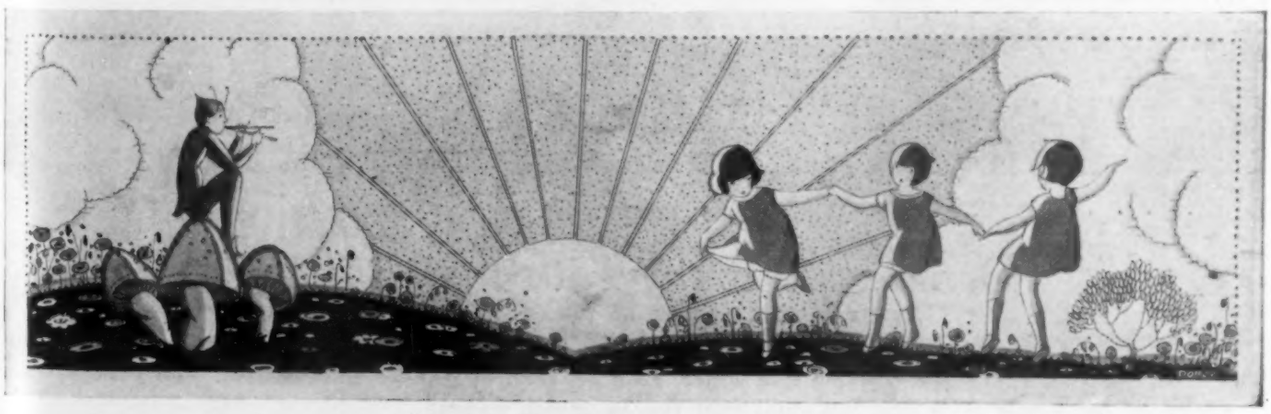
Sunlight is not used alone but is supplemented by orthopedic measures designed to give rest to the diseased part.

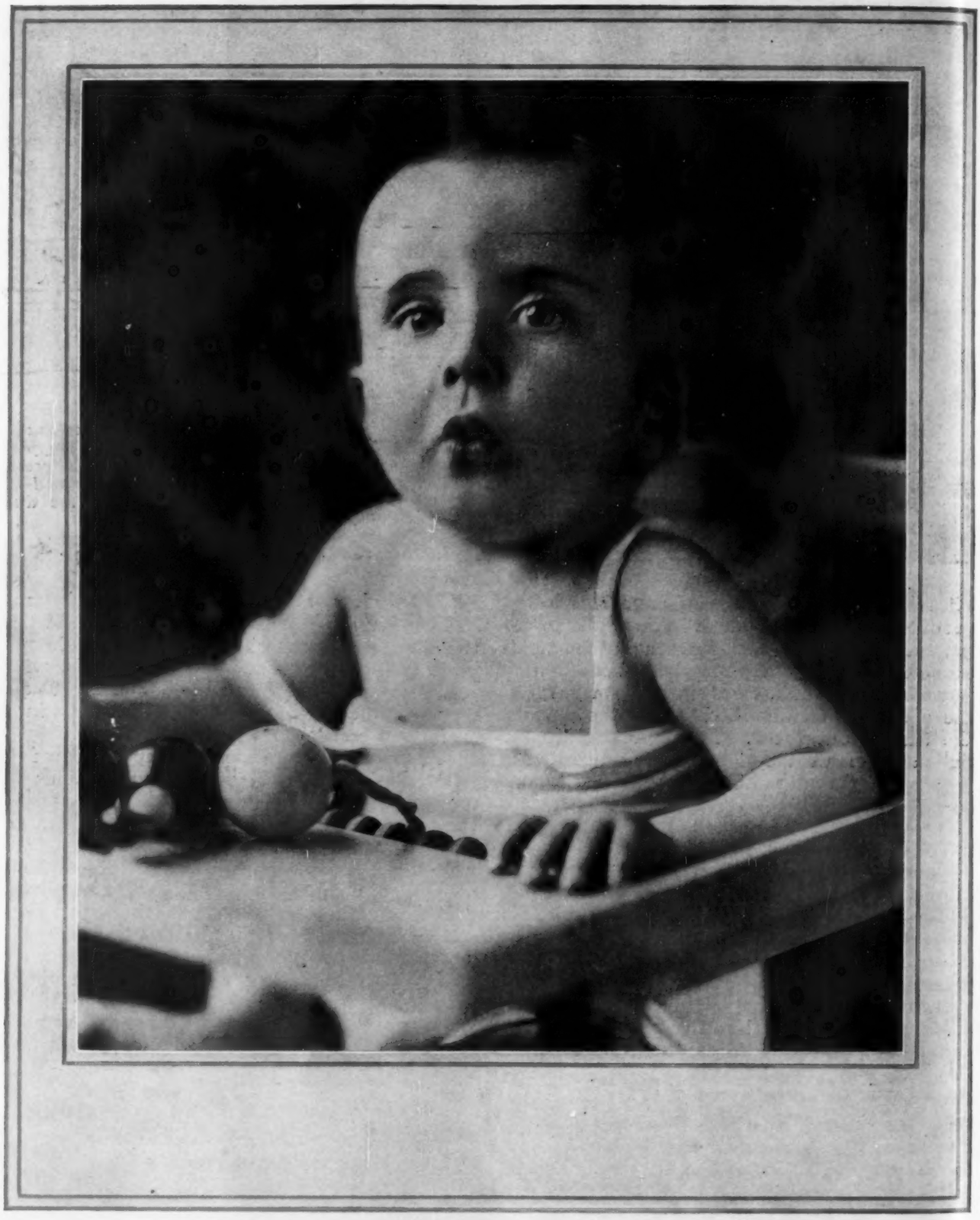
ultraviolet rays which are so important in the production of skin pigment. The whole of the patient's body is exposed in order that the maximum amount of benefit may be obtained. One finds that there is a close parallelism between the pigmentation of the skin and the cure of the tuberculous focus. The more deeply the patient pigments, the more rapid and certain is his cure. Sunlight is not used alone but is supplemented by orthopedic measures designed to secure rest of the diseased part.

The results of this treatment are very satisfactory. Though suffering from one of the most chronic of diseases, and in its generalized form, a large percentage of patients with surgical tuberculosis can be completely cured of the disease. In one group of adult patients whom I have had under my care, eighty-five of the first hundred were completely cured.

The response in children is even more gratifying. It is striking to see a group of pale, sickly children, released after a winter's confinement in the wards of a city hospital to the sunshine and fresh air of a summer home, literally blossom forth into good health, with ruddy complexions and plump bodies. Their response to sunlight recalls that of flowers in a springtime garden.

The proved value of sunshine in this form of tuberculosis points the way to wider fields of usefulness for it. If we can cure this widespread form of the disease, how much more certainly could we cure the first incipient lesion, were we to treat it with sunlight? Recall that 95 per cent of us, at some time during our lives, pass through a tuberculous infection. Our successful overthrow of the disease is dependent on the amount of resistance we can muster against it. Sunlight is the most powerful stimulant of this resistance of which we know. We should see to it that our children have an adequate amount. It is as important as food.





Don't Talk Baby Talk to the Baby

A CERTAIN amount of baby talk is natural in the development of a child's speech, but the major part of the child's talk will be that which he hears from his parents and relatives. To prolong the period of baby talk is to lead the child into vicious speech habits.

Overcoming Vicious Speech Habits

By John A. Glassburg

THIS is the child's age and in every corner we hear discussed hygiene for the child. The child diagnostician is fully established. Child welfare is organized to the *n*th degree. The child's teeth are carefully attended to by the dentist and dental hygienist. The child's sense of rhythm is developed by the dancing master. There is music as a mental and physical discipline, art for the esthetic sense, psychometric tests for detecting the retarded, schools for self-expression, physiotherapy for physical development and there are dietetics and physical training for the production of a healthy mind in a healthy body.

But what has been done for speech? Speech, which needs as much care, training and reeducation as any of the other hygienic specialties, is sorely neglected. It is scarcely considered. A stutterer is told he will outgrow the condition or there is nothing to be done, and both of these statements are false. Stuttering can be cured but only in rare cases does it disappear of itself. Left untreated, it is often the basis of pathologic disorders of adult life.

Good English belongs on the playground as well as in the schoolroom.

The importance of treating speech defects can be fully appreciated only when the evil effects produced by these disorders are well understood. Many children are considered mentally retarded, backward and even feebleminded because of a speech defect. Inferiority complexes, shut-in personalities, shyness, timidity, maladjustment, suicidal tendencies, emotional instability, criminality and antisocial characteristics are some of the results of the disturbances of speech.

Distinct, quiet utterance would not only make life pleasanter but would enable us to talk faster and be more easily understood in business.

What part does speech training play in the elaborate plan of hygiene for the child? If considered scientifically it may be said to play the part of all the foregoing specialties combined, for beginning with mental hygiene and ending with the comprehensive term "self-expression," speech contains a series of exercises for all hygienic purposes.

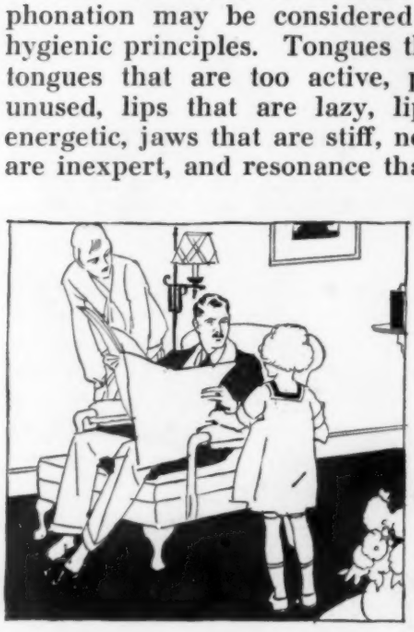
To be more explicit, let us analyze what takes place in the complex act of speaking. The foundation is relaxation, for only by gaining this can the mind command the speech organs. When the stutterer begins to speak, he directs his attention to the process and becomes tense. The muscles contract, he stands rigid, the abdominal wall hardens like a board, the jaw is held tight, the lips are firmly compressed, the fists are clenched, the cheek muscles are taut and there is even a spasm of the laryngeal muscles. The first task is to break down the wall of spasticity and liberate the imprisoned voice.

The muscles of the face, mouth, neck, larynx and, in short, of the whole body, for one speaks with the entire body, should be relaxed and this relaxation is an excellent exercise for the emotional, hypersensitive, bashful, timid, self-conscious or overanxious child.

Breathing is the other corner-stone of the foundation of speech. Stutterers often breathe improperly. The chest may be violently heaved, there may be a wrong action of the diaphragm or attempts may be made to draw in air while the throat passage is partially closed. Another bad habit is talking while inhaling. In speaking, proper breathing is an absolute necessity. Exercises directed toward correct breathing stimulate the diaphragm, the rib muscles, the chest muscles, the windpipe, the gullet and the paths through the nose and mouth. Surely its hygienic value needs no comment.

The artistic sense is appealed to by the fairy tale of that most wonderful musical instrument —the speech organ. The human vocal organ is the most complicated instrument known and at the same time superior to all, for it is capable of imitating every other instrument invented by man. We are wont to compare the loveliness of the human voice to that of birds, but no bird has ever been able to attain the richness, the wide register and variations of the human voice.

When we come to articulate speech itself, phonation may be considered a field full of hygienic principles. Tongues that are sluggish, tongues that are too active, palates that are unused, lips that are lazy, lips that are too energetic, jaws that are stiff, nose muscles that are inexpert, and resonance that is due to lack of breath or an overflow of breath might be trained to perform more accurate coordination and thus bring about better speech and better thinking.



The lisping child is apt to grow up with ineffectual breath control, a harsh and nasal voice and overanxious, confused speech.

We think in words, and speech is the vehicle of self-expression. If it is carefully watched and properly cared for, many ailments, complexes and behavior problems may be obviated. Speech may be considered an index to character. Through the breathing habits of a child much may be learned about his bodily and mental health. Through his posture many traits may be studied. Through his method of response a physical disorder may be unearthed. In speech we find a mental and physical discipline.

Given a population into the making of whose language such varied elements have entered and in whose economic situation are so many elements conducive to nervous disorders of every sort, it is surprising that our American tongue has evolved even as happily as it has. The average American has a shrill voice, and his speech is careless as compared to the voice and speech of the Englishman.

The average American voice is shrill and the speech is careless as compared to the voice and speech of an Englishman.

Professor Clapp of Lake Forest, Ill., states in "The Reformation of American Speech": "Many have come to realize that our vicious speech habits are a serious handicap to national efficiency. They impair the speed and accuracy of communication in business as well as in social life; they increase our liability to disease. Or, to put it around the other way, a general insistence on decent speech—distinct utterance and clear, quiet tone—would not only make life pleasanter, but also would actually enable us to talk faster and be more easily understood in all our business dealings. It would lessen disease, because it would promote better hygiene of the entire vocal tract—mouth, nose, throat and lungs—among all persons, because it would lead to the detection and correction of thousands of physical irregularities which now go unhelped and almost unnoticed."

The care to be given to these disciplinary measures which will prove the effectiveness of the hygienic principles may be summed up in part by noting the speech activity from infancy to the period of adolescence. There will be some baby talk of course, in the developmental stages of the child's language, because his tongue and lips and laryngeal muscles are not ready to respond to all the imitations that he attempts, but the major part of the child's talk will be that which he hears from his parents and relatives. Here we have the foundation of language habits.

The baby talk, if prolonged after the age of infancy, produces many of the lisps, the

ineffectual control of breath for intelligent language, the nasality so prevalent in the American voice, the harshness due to overenervation of speech muscles, the overanxiety that leads to confusion of thought and mental haste and many negligences of ordinary speech.

If the developmental stage is well cared for, the speech of the child of school age will be on the road to clearness and correctness. Nevertheless, the rôle of the school in the development of proper speech is not to be underestimated. The teacher and the class, next to the parents and the home, are the important factors in speech education.

One of the great problems of education is to lead the child to realize that the things he is taught in school are to fit him for real life. The child considers that school and all that it implies is a separate and distinct part of his life. It never occurs to him to apply his lessons to his outside activities. This is well illustrated by the answer of the boy who when asked, "Sonny, why don't you speak the way they teach you in school?" replied, "Aw, dats de way dey talk in books. I ain't gonna talk so silly."

Grammatical and Melodious Speech

It is useless to expect a child to acquire a grammatical and melodious manner of speaking unless the teacher can implant in him the thought that good English is preferable to street jargon. The child's auditory sense should be accustomed to good speech so that a lasting impression will be made on his mind. For, after all, it is the effect of strangeness that prevents the adoption of good English. A boy feels that it is "sissified" and would be ashamed to talk so to his "fellers." He should have his ear so attuned to correct speech while in the classroom that some echo of it will last through the various stages of his development and reassert itself in later years.

The speech of the schoolroom should not have any flavor of the pedantic or meticulous but each word should be carefully pronounced. The vowel sounds should be given their full value and every thought should be expressed in simple everyday language, such as the child himself is apt to use. It is difficult to lecture the children on the benefits to be derived from the practice of correct speech, but it should be possible to bring them to realize how easy it is to talk properly. By the constant use of good speech in the schoolroom they can overcome the sense of strangeness.

The far-reaching effects of speech disorders are not generally known. In fact, they are almost completely disregarded. Here we have a protean source of evil. A child who possesses a defective speech is intellectually handicapped. The meager vocabulary, the inexact and poorly expressed ideas, the slovenly diction, all tend to mold the mind into the acceptance of inferior ideas and to prevent straight thinking.

After studying thousands of delinquent children, William Healy of the Juvenile Psychopathic Institute of Chicago says, "We have been tremendously impressed with the influence that a speech defect has upon the personality of the offender. We entirely agree with several authorities who state that the tendency of stuttering is to make the individual highly antisocial. The victim of this annoying disorder looks on himself as very different from others of his kind. Thieving, vagrancy and homosexual practices have in consequence been indulged in."

A Course in the Reeducation of Speech

The study of speech defects is a comparatively new field. Speech specialists are doing pioneer work. They know that by overcoming a speech disorder they can change the attitude, behavior and personality of a person and readjust him properly to his environment. Speech defects are curable and the sooner treatment is undertaken the better the results.

Finally, a course in the reeducation of speech is a course in mental and physical hygiene. Relaxation, proper breathing, good posture, muscular development, poise, equanimity, self-control, mental balance and straight thinking are some of the results. In brief, speech reeducation is character building.

How Los Angeles Helps

Children with Weak Hearts

By

O. H. Barnhill

NINE THOUSAND Los Angeles school children have defective hearts. About one third of these cases are sufficiently serious to need intensive study, constant supervision and corrective work. Fortunately they are receiving this help from the department of health and corrective physical education of the public schools. Sven Lokrantz, M. D., is director of this important division.

The average parent knows little about heart disease; therefore a large percentage of boys and girls thus afflicted are receiving no preventive or corrective treatment.

What is the result? Thousands of children are growing into weakened, diseased men and women, seriously crippled for life, their usefulness and capacity for enjoyment greatly impaired. This means an enormous economic loss to the community, as well as a great lessening of the social and spiritual efficiency of many otherwise valuable citizens.

No expensive equipment, materials or instruction are needed greatly to benefit children with defective hearts. They can be, as many are, helped to become happy, useful members of society at a cost that is trivial as compared with the benefits received both to community and individual, or as compared to the amount spent for training the mind. The latter is of little value if the body is weak and ailing.

Parents Anxious to Cooperate

A gratifying feature of the heart work in Los Angeles schools is that almost without exception parents of children examined and treated express gratitude for the interest shown, advice given and corrective work instituted. They are anxious to cooperate.

Surprise at the nature of the ailment revealed is a common experience. In one case a girl of 12 with serious heart disease had been taking regular physical exercise. Her mother knew the child was not well and several times had had the child's lungs examined, having no suspicion that the heart was affected. Shortly afterward it was found necessary to take the girl out of school.

Not only do teachers, physicians and parents approve the department's activities, but the children themselves respond. In many cases boys and girls voluntarily attend corrective classes and take part in the exercises, even when their condition indicates no absolute necessity for such work. They realize, however, the benefits of participation in health projects and desire to take full advantage of every opportunity to make and keep themselves physically fit.

Examined Every Third Year

All children entering the Los Angeles schools are examined for heart defects and other physical ailments. Subsequent examinations are given every third year, or oftener when special defects require more constant supervision. During the past year 165,321 boys and girls were examined.

A consultation board composed of eight volunteer physicians meets once a week to aid in diagnosing difficult heart cases and to outline a preventive regimen in general hygiene and nutrition, so far as these relate to the child's school work. The board does not direct the child's medical treatment in any way, nor does the department under which it works; this being left entirely to the family physician or other agency chosen by the child's parents.

The heart board has at its disposal a central meeting place, two stenographers, one social worker, an x-ray, fluoroscope and electrocardiograph.

Among older school children, the discovery of new heart cases is confined mostly to boys and girls entering the city from districts in which physical examinations are not as careful and complete.

The discovery and correct diagnosis of heart defects in boys and girls while they are yet very young is of the greatest importance and is invaluable in administering corrective treatment.

Delay in examination, diagnosis and treatment is not only dangerous but often leads to irreparable injury to the child's most vital organ.

Nearly all children with heart defects have at some previous period suffered from tonsillitis, rheumatism, diphtheria, influenza, measles or some similar disease.

The first step in treating children with weak or diseased hearts is to classify them according to the seriousness of their condition. Those suffering from functional disturbances have their athletic activities supervised and checked by a school physician. They are permitted to take part in easy athletic exercises but not in competitive races or such strenuous sports as baseball, football and basketball.

Children with minor heart defects are allowed to play such games as golf and to participate in certain formal exercises, carefully supervised. They also are given special exercises that tend to enlarge the chest capacity and indirectly strengthen the heart muscle.

Boys and girls with definite heart defects well compensated are given corrective exercises and permitted to take part in corrective games. Rest periods also are prescribed.

To children suffering from organic heart defects, with poor compensation, only passive exercises are given, with rest before and after.

In order accurately to determine the effect of exercises given, tolerance tests are taken once a week in some schools. The vital capacity of the child is noted, also his pulse, in order to measure improvement in chest capacity and pulmonary circulation. Special care is taken to prescribe only such exercises as will improve the venous circulation and the respiration, in order to increase the supply of oxygen and relieve the heart's work.

All exercises, within a certain limit, tend to exercise the heart in a reflex way. Any movement that interferes with the respiration or circulation of blood in the veins is avoided, such as hanging, active trunk rolling, forward lying, rising and sit rising. Chest exercises are especially helpful in strengthening heart muscle.

Children with weak hearts suffer more or less from nervous instability and are extremely sensitive to criticism from teachers and other pupils. Because of this accompanying condition, boys and girls with defective hearts sometimes are injured by classroom work when the teacher is too severe and critical.

Los Angeles school teachers therefore are asked to show leniency toward children with weak hearts and to be careful about criticizing them, especially in the presence of their associates. Teachers also are instructed not to give such children tardy marks, especially when the

child lives far from school and has stairs to climb, because hurrying to school and the fear of getting a bad grade on account of being late places an injurious strain on the heart.

Nearly all children with heart defects have at some previous period suffered from tonsillitis, rheumatism, diphtheria, influenza, measles or some similar disease. Germs from these diseases lodge in the heart and cause permanent damage. Infection causes the lining of the heart to become inflamed. This condition usually includes the valves, which become scarred and deformed and unable to close properly.

The worst result of inflammation, however, is to cause fatty or fibrous degeneration of the heart muscle, with the result that it contracts sluggishly and feebly and at irregular intervals, instead of strongly and rhythmically, as does a normal heart. This weak heart action results in poor circulation, insufficient supply of blood to the various bodily tissues and deficient oxygenation of the lungs. Obviously, a child thus affected cannot endure much mental or physical exertion.

The capacity for work and play of a child with a weak heart can be estimated by observing him closely while he is engaged in these activities and noting the onset of fatigue, as compared with the same reaction in a normal child. If the former is ambitious, he is apt to disregard the first warnings of fatigue.

Here is a situation in which the teacher can help. The signs of overstrain are breathlessness, profuse perspiration, anxious expression, pallor, complaint of pain in the chest and, in extreme cases, blueness of the lips. Classroom signs are listlessness, inattention to work and changeable disposition. Most children with defective hearts show one or more of these symptoms, while a few exhibit all of them. When any such signs are observed the fact should at once be reported to the school physician.

It is not meant that boys and girls with weak hearts should not be properly disciplined, but that they should be led, rather than driven, to right behavior. Such children should not be allowed to suspect that they are being favored on account of their physical disability, because they are extremely sensitive on this point. Knowledge of favoritism is apt to cause them to worry about their condition. One must not make hypochondriacs out of "cardiacs."

The child with defective heart should be kept from mental strain or tension while at work. If possible, he should be permitted to recite first, so that his mind may be at rest and unnecessary wear and tear on his heart muscle avoided. Ambitious, energetic children often have to be held back, lest they overstep the limit of heart endurance.

This stethoscope fitted with long flexible tubes is especially useful when examining children.

The child with a weak heart should be well nourished, parents are advised, and have plenty of sleep, fresh air and exercise. He needs exercise just as much as other children, but his work and play should be prescribed by a physician and intelligently supervised, in order to prevent heart overstrain. He should lead a quiet, normal, regular life, free from vexation, worry or excessive strain.

Parents are warned not to talk before the child with a defective heart about his condition, or to show great anxiety over his case, because of the danger of making the sufferer a nervous, chronic invalid. Specific instructions are given regarding the child's work, rest and play, how often he should be examined by a physician, whether his teeth or tonsils need extraction or attention, and other advice of a similar nature.

The average child with a weak heart chafes at restraint, especially that which prevents him from participating in athletics, games and other social diversions. He is quick to realize the necessity for conserving his heart power, however, and usually is willing to follow the prescribed rules for accomplishing this object.

The choice of a future occupation is an especially important matter for the child with a subnormal heart, since this may prove the determining factor of his success or failure in after life. Many vocations are too strenuous or too full of worry and excitement for a person with a weak heart. When a person thus handicapped chooses the wrong profession, the result may be tragic.

It is not uncommon for Los Angeles school physicians to examine applicants for teaching positions and find them incapacitated for such work on account of weak hearts. Why were they permitted to spend long years of costly preparation for a profession they were physically unable to follow? Something serious is wrong with a system of education that permits such costly blunders.

Early in his secondary school career the child with a subnormal heart should be advised regarding the vocations he may safely follow. Aviation and architecture are good examples of two vocational extremes, judged from the standpoint of heart power needed.

IMMUNITY to Disease

By Mahlon Ashford

THE story of man's struggle to gain the mastery of disease through the application of the principles of immunology is incomparably dramatic and fascinating. It is a drama replete with baffling mystery, intriguing problems, glorious contests, in which the tenacity and courage of intelligent men have been matched with the immutable and cryptic laws of Nature. If ever drama possessed human interest, this one is supremely charged with concern to mankind.

Through immunology, diphtheria, tetanus, rabies and the typhoid group of fevers have been brought within human control. Measurable success has been won in the control of the occurrence and the mortality of scarlet fever. A number of the remaining bacterial infections which have scourged the race from immemorial times are now combated through this agency with encouraging results for mankind. In this group are the plague, the Asiatic cholera, erysipelas, type I pneumonia and cerebrospinal meningitis.

Immunity Not Absolute

In the autumn of 1918 a great epidemic of influenza swept the United States. The military camps afforded unusually uniform conditions for observing the course of this epidemic. The disease sped through these camps much as a tornado will sweep through a forest, uprooting a mighty oak here, leaving unharmed a sapling yonder. It came and went—but when it had gone we saw that, although all appeared to have been equally exposed, only a fraction evidenced attack, and this attack did not always strike down the weak or even those whom environment and circumstance would seem to have rendered especially susceptible. Some, it would appear, were for the particular time at least immune. Indeed, the race would be quickly exterminated were it not for the fact that we are not all at the same time nonresistant to an epidemic such as this. What then do we know of this inestimable blessing, immunity.

In the first place, immunity to disease is nearly always a relative and rarely, if ever, an absolute state. Thus we find the rat and the dog possess marked resistance to anthrax, while the barnyard fowl is similarly resistant to the bacillus of tetanus (lockjaw). Yet the immunity of these animal species is only relative. It is possible to produce these diseases in animals but their susceptibility to the particular infections is much less than that of man.

Racial Immunity

It is not possible to show an equal degree of racial immunity toward disease, and such instances of racial immunity as will be cited are susceptible of criticism, because the varying conditions of the human races provide other hypotheses whereby apparent differences in racial immunity may be explained. Thus the susceptibility of the less highly civilized races, such as the American Indian, to the ravages of tuberculosis appears to be much higher than that of the European. This is not to say that a greater proportion of the Indian race than of the white race will become infected under equal conditions of exposure, but the observation of many decades appears to establish the fact that tuberculosis will be more deadly in its effects on the red race than on the white under similar conditions.

In the instances cited of species and racial immunity it is clear that the condition is relative. It is also apparent that relative immunity of race or species seems to go hand in hand with generations or centuries of contact. Manifestly the barnyard fowl and the *B. tetanus* lived together in the days of Rameses, as they do today. Manifestly man has gradually raised himself from direct and continuous contact with this organism. The white race has dwelt for ages under conditions in which tuberculosis has been present. Each generation has been generously infected. The body defenses of each generation have been marshaled to this contest. Presumably each generation has passed on to its successor a cellular or humoral element highly sensitive and highly resistant to this enemy.

Nature has thus exhibited on a magnificent scale a phenomenon that may be compared to

the application of typhoid vaccination to the five million men in our armies during the World War. What was done then was to inject subcutaneously an infinitely small quantity of the poison derived from the *B. typhosus.* The human body reacted to this toxin, and in reacting produced within the body elements competent to neutralize subsequent infection with living typhoid germs. The result of this protective inoculation was not absolute immunity from typhoid fever for these five million men, but when the incidence of this disease in our troops in the World War is compared with the experience of other wars, one is justified in saying that the inoculation conferred a marked relative immunity. In other words, the men who were vaccinated were far less apt to contract typhoid fever than men not so protected.

Looking back once more to the instance of relative racial immunity to tuberculosis, the critic may say, "Contact of a race with tuberculosis may in time produce decreased susceptibility, but how about contact with influenza for example?" That is a good point, and the only answer we can give just now is an hypothesis. Perhaps the toxin of influenza is one against which the race cannot formulate a resistance transmissible from one generation to the next. Perhaps the defensive element produced by this disease is not great or lasting, for an attack does not appear to confer any assurance of freedom from early reinfection. Perhaps the race has not lived in contact with this disease long enough to develop racial immunity. The scientist can only select his own hypothesis, apply the known facts to it. If it still stands, he may try it out by careful and honest experiments in which he has controls.

Natural and Acquired Immunity

Immunity is generally spoken of as natural or acquired. The underlying principles are probably the same for both forms, as the distinction relates only to the source. Natural immunity is inherent freedom from susceptibility to an infection. The species and racial immunities are the best examples of natural immunity. Acquired immunity may be derived from exposure to an infective agent or its toxins, and in such instance the man is actively immunized against this infection.

There are several ways in which a man may acquire active immunization. A man falls ill with lobar pneumonia. In a few days he has the crisis; his fever and other clinical symptoms of illness subside. Yet his sputum is still laden with the deadly pneumococcus. How do we explain this? Evidently his body has developed something that protects him from the toxin of the pneumococcus. He has in fact developed an active immunity to the poison of this germ through having the disease.

Again a man is given protective inoculations of dead typhoid bacilli. These organisms, being dead, cannot multiply in the man's body, but they can be and are dissolved, releasing a small amount of the toxin of this disease. The man's body thereupon starts a campaign of producing an antitoxin for this typhoid toxin. Soon he has produced not only enough to overcome the tiny bit received but a stock on hand sufficient to protect him from a real live infection. He becomes actively immune.

A child is shown by the Schick test to be susceptible to diphtheria. The disease is prevalent in the community. The parents have the child protected by an injection of an infinitesimal portion of the toxin produced by the bacillus of diphtheria. The child's defensive mechanism is aroused and produces ample antitoxin to protect the little one from this infection. These are forms of active immunity.

Passive Immunity

In 1890-1892, v. Behring discovered that the blood serum of animals that had developed immunity to diphtheria and tetanus was protective to normal animals against these particular toxins. Thus the second animal, though it itself had never struggled against the infection or its toxins, was protected by giving him some of the serum of the animal that had passed through this process. This form of second-hand immunity is termed passive immunity. By the practical application of this discovery humanity is given a certain and effective remedy for the treatment of diphtheria and tetanus.

Curiously enough this same principle has been applied with distinct success in the treatment of measles although the causative organism is as yet unidentified. Thus it is now known that the blood serum of convalescents from measles possesses an element which when injected into a nonimmune person will for a time protect him from attack. Measles also is interesting in that it is a disease to which the human race appears to be quite universally susceptible. Exposure to attack almost invariably results in infection for those who have never had the disease. Among islanders and remote peoples where the disease has been unknown, its introduction has been followed by rapid and deadly epidemic.

It coincides with our ideas of divine justice that the immunity produced by suffering the disease should last the longest; that produced by the individual who is inoculated with attenuated, or dead, bacteria or their products, has next expectancy of life; while the passive immunity is of briefest protection.

The period of protection following either actively or passively acquired immunity varies greatly in different diseases, and apparently in different individuals. Thus one attack of

typhoid fever, scarlet fever, measles, or whooping cough is usually sufficient for a lifetime, but similar immunity does not follow an attack of influenza or pneumonia. The exact duration of the immunity conferred by active immunization through inoculation cannot be fixed. In the United States Army the rule at present in force is to give two complete inoculations of typhoid-paratyphoid vaccine at three year intervals. No further protection is deemed necessary in the absence of unusual exposure to the disease.

The protection following passive immunization is brief. Thus the antitoxin of tetanus disappears in about twelve days, so that it was customary in treating wounded men in the World War to give a second dose of antitetanic serum about the eighth day. In the same manner a single injection of diphtheria antitoxin provides protection only for a few days and therefore is far less satisfactory than the prophylactic immunization with toxin-antitoxin recently perfected and made available to the public. This one accomplishment is itself a monumental boon to humanity and a justification for the labor of immunologists. It offers a safe and practicable means to eradicate this disease.

Yet diphtheria is with us. For example, the U. S. Public Health Service reports in the United States for December, 1926, 111,011 cases of diphtheria. Contrast this with the report of the city of Auburn, N. Y., which has not had a death from diphtheria in the three years ending March 8, 1927, and only seven cases of this disease in the entire year 1926. New Haven, Conn., in March, 1927, boasted that the last diphtheria death was fourteen months previous. These two cities attribute this remarkable reduction in illness and death from diphtheria among their children to immunization against diphtheria. When will public opinion be sufficiently aroused to put an end to this needless suffering and death among the children of America?

Immunity to certain deadly diseases is not a matter of chance. It is a certain and definite agency which acts in accord with the unchanging laws of Nature. The much maligned Thomas Paine, who was not in any sense an atheist, declared that his belief in God was fortified by his knowledge of the fixed laws of Nature. In this sense then we may speak of these demonstrated principles of immunity as providential. For certain diseases man has discovered the agencies and principles involved and has through this knowledge been able to offer protection to mankind from these specific infections.

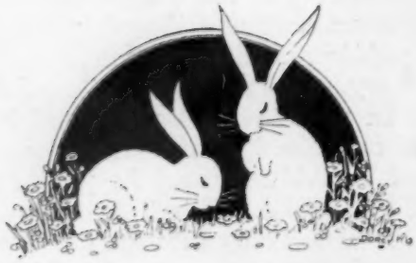
種痘 VACCINATION
第十三圖 (13)
13. This child is happy while being vaccinated; vaccination protects him against small-pox for at least three years. Every child should be vaccinated within one week after birth.

Posters such as this one help to keep down the Chinese death rate from smallpox.

It is, however, not enough that we possess this knowledge. We must explain and demonstrate these facts to our fellow men, seeking to win the credence and support of reasonable men and women. Thus we have reached that point in the advance of knowledge at which we have within our grasp the means to reduce enormously the incidence of diphtheria. The suffering, the disabilities and the death of our children from this disease are preventable and therefore needless.

That the public permits the continuance of this unnecessary and cruel slaughter of innocents is due in part to inertia, in part to the opposition of organized groups of unreasoning and fanatical individuals and in part to the ignorance of the public. This last and greatest factor can be lessened only through the dissemination of knowledge to the people. It is not enough that the scientist discovers and that intellectual men and women understand the principles and application of immunology to the diseases that scourge mankind. This knowledge must be imparted clearly and simply to all.

Vacation Fun



in Grandmother's Garden

All photos by H. Armstrong Roberts

Tuberculous Physicians *and Their Contributions*

René Laënnec

By J. A. Myers

THERE was born in France in 1781 René Théophile Laënnec, the son of a lawyer. His mother died when he was only 6 years old, and because his father seemed too busy to care for him he was placed in charge of his grand-uncle, who was a priest. This uncle gave him excellent care and paid especial attention to his health.

Five years later, the boy went to live with his paternal uncle, who was a physician and a member of the faculty of medicine at the University of Nantes. Through this uncle Laënnec became interested in medicine and later he entered the medical school of the University of Paris. Here he took one prize after another in medicine and surgery.

After graduating in medicine Laënnec spent several years in the observation and care of hospital patients and took advantage of every opportunity to make postmortem examinations. He was deeply interested in anatomy and early became a prominent member of the Anatomical Society of France. When he was only 21 years old he published several papers in a medical journal and at the age of 22 he gave a successful and popular course of lectures on pathologic anatomy. At 24, he received the degree of Doctor of Medicine.

During the next twelve years Laënnec made many contributions to the literature of anatomy and pathology, and in 1816 was appointed physician at the Necker Hospital. Following this, physicians began coming from all parts of the civilized world to be taught by him. He was an ideal teacher, always making a deep and lasting impression on his students by his earnestness and his absorbing interest in his work.

Laënnec devised the stethoscope and because of it his name has been immortally graven on the walls of fame. His own description of this discovery is as follows:

"In 1816, I was consulted by a young woman who was laboring under the general symptoms of a diseased heart. In her case percussion and the application of the hand were of little service because of a considerable degree of stoutness. The other method, that of listening to the sounds within the chest by the direct application of the ear to the chest wall, being rendered inadmissible by the age and sex of the patient, I happened to recollect a simple and well known fact in acoustics and fancied it might be turned to some use on the present occasion. The fact I allude to is the great distinctness with which we hear the scratch of a pin at one end of a piece of wood on applying our ear to the other.

"Immediately, on the occurrence of this idea, I rolled a quire of paper into a kind of cylinder and applied one end of it to the region of the heart and the other to my ear. I was not a little surprised and pleased to find that I could hereby perceive the action of the heart in a manner much more clear and distinct than I had ever been able to do by the immediate application of the ear.

"From this moment I imagined that the circumstance might furnish means for enabling us to ascertain the character not only of the action of the heart, but of every species of sound produced by the motion of all the thoracic viscera, and consequently for the exploration of the respiration, the voice, the râles and perhaps even the fluctuation of fluid effused in the pleura or pericardium. With this conviction I forthwith commenced at the Necker Hospital a series of observations from which I have been able to deduce a set of new signs of the diseases of the chest. These are for the most part certain, simple and prominent and calculated, perhaps, to render the diagnosis of the disease of the lungs, heart and pleura as decided and circumstantial as the indications furnished to the surgeons by the finger, or sound, in the complaints wherein these are of use."

Laënnec's Stethoscope Simple

Although the instrument Laënnec invented and described was simple, it has since been greatly elaborated. Yet no one within the century and more that has passed since his discovery has made more satisfactory descriptions of sounds heard from within the chest than he made. Indeed, at the time Laënnec invented the stethoscope, knowledge of diseases of the heart and lungs was in a chaotic state. It was he who so interpreted the sounds coming to the ear from the lungs that he was able to differentiate between various diseases.

Previous to this time, lung fever was a common diagnosis; indeed, because of the lack of differential knowledge, most abnormal conditions of the lungs, accompanied by fever, were then called lung fever. With his newly invented stethoscope, however, Laënnec pointed out the difference between such diseases as pleurisy, pneumonia and bronchitis. He described with great accuracy the sounds heard over the lungs resulting from the different forms and phases of tuberculosis, from pulmonary cancer and several other of the less common respiratory diseases. Laënnec's interpretation of sounds coming from the heart were not entirely correct; but, nevertheless, he laid down the principles on which accurate diagnostic signs of various abnormal heart conditions are based today.

After long and careful study of the sounds heard from within the chest, Laënnec published, in 1818, a book on the subject. So great was the demand for it that the first edition was exhausted by 1823. Then came a loud call for a second edition. This was followed by a third and fourth edition. An English translation was made by John Forbes the English physician before the year 1827; and the translations had run through four editions by the year 1838. Since the appearance of the first edition, Laënnec had continued his studies with the stethoscope so that in a revised edition he was able to make many valuable additions to the work. Indeed, he wrote an entirely new book.

So fundamental were the principles laid down in this revised edition and so slight are the changes in our later knowledge of the subject that it is read with great profit by physicians and students of medicine to this day.

Of this great work, Sir William Osler makes the following comment: "With the 'Traité d'Auscultation Mediate (1819)' Laënnec laid the foundation not only of our modern knowledge of tuberculosis, but of modern clinical medicine. This work (easily to be had in English translation) should be read from cover to cover by every young doctor, and, when possible, by every senior student."

In another connection, the same author, in reviewing medical progress of the late eighteenth and early nineteenth centuries, said, "The clinical recognition of individual diseases had made really very little progress; with the stethoscope begins the day of physical diagnosis. The clinical pathology of the heart, lungs and abdomen was revolutionized. Laënnec's book is in the category of the eight or ten greatest contributions to the science of medicine."

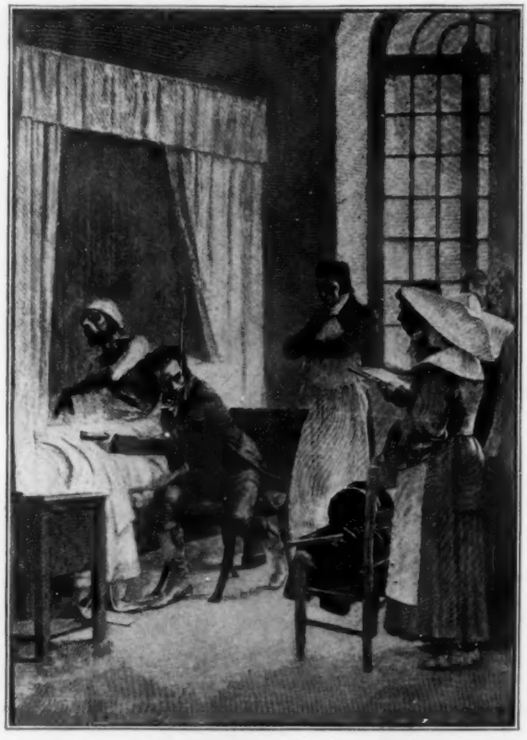
Took Scientific Interest in His Own Condition

Throughout his life, Laënnec was in somewhat delicate health. Indeed, when he went to live with his grand-uncle his health had to be carefully guarded. Through the excellent care he received, however, he was able to carry on his studies successfully while in school and to perform his duties excellently after entering on the practice of medicine. Because of his intense interest in people who were ill, his burning desire to help them and his never ending labor in his attempts to contribute to medical knowledge in such a way as to relieve the whole human family from suffering and untimely death, he overtaxed his strength.

The first break in health came in 1806, but it did not seem serious. In fact, he remained in Paris, continued a part of his work and was able soon to resume all of his duties. In 1819, his nerves failed him. Because of these symptoms he was unable to work, so he went to Kerlouanec, where he spent almost two years as nearly as possible free from mental work, engaging in field and other sports in the open air. With much improved health, he returned to Paris where he resumed his customary pursuits.

Only one year later, he was appointed professor of medicine in the College of France and his practice as well as his other duties increased so rapidly that it was not long before he again showed evidence of failing health. Within four years he had developed a severe cough, lost weight, developed a fever and was suffering from pleurisy. He realized that he had tuberculosis of the lungs and he felt sure that the two previous attacks were manifestations of the same disease. He went back to Kerlouanec and the change brought about a temporary improvement. Later the attacks grew more severe and he became weaker and weaker. He came to the conclusion that he was suffering from "galloping consumption."

Laënnec's long study of tuberculosis and his written work on the subject justify one in saying that no one had lived before him whose knowledge of tuberculosis could approach his. In consequence, he was well aware of what was going on in his own case and he understood clearly, out of his own observation, that the end was not far distant. Indeed, at one time, he predicted that he could live only eight days, and although his prediction was not exactly correct he was making his last stand against the disease. During his last illness he worked on the revised edition of his famous book. Unquestionably this labor took much of his strength, but he succeeded in finishing the book before he died, and so greatly enriched the world's knowledge of tuberculosis.

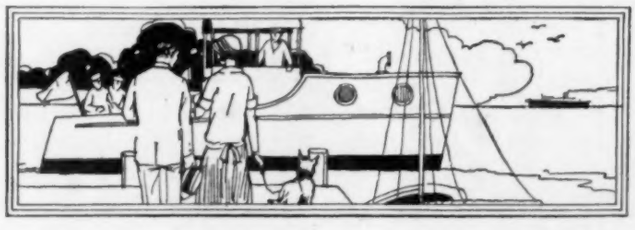


Laënnec making a ward visit in the Necker Hospital, Paris, in 1816. The stethoscope may be seen in his left hand. This is a reproduction of a painting in the Sorbonne.

Laënnec was a firm believer in the beneficial effects of the sea air, so he requested that his windows be kept open day and night. During the day he often spent much time sitting in a chair in which he had been carried out under the trees. On many of the last days of his illness he insisted on riding out in a carriage twice daily. As the end approached his hope of recovery increased, but he grew weaker and weaker, in part as a result of the treatment he received, and he died August 13, 1826.

Thus Laënnec, who had fought so hard to prevent the untimely death of others, fell upon his own battlefield. He knew more about the enemy he had to fight than any other living man, yet he entirely forgot himself in his strenuous efforts to save others. Through his discoveries and his interpretation of his findings, he made the detection of early tuberculosis possible. In our own day, no factor is more effective in reducing its death rate than the early diagnosis of the disease. Not only does early recognition tend to prevent the spread of tuberculosis from one person to another, but it also brings the patient under treatment at a time when there is an excellent chance for recovery.

Although Laënnec died too soon, he had won his goal, and, as the battle with tuberculosis continues, he must be reckoned among the greatest fighters of the disease who have ever lived. As time passes his name will ring on down the ages as that of one of the great emancipators of men.



What Causes MENTAL DISEASE?

By H. C. Solomon

II. Functional Psychoses

AS WE approach the consideration of the causes of mental disorders falling in the second large group, the functional psychoses, a more difficult situation confronts us. The functional psychoses are so called because we have no knowledge of the underlying change in the brain. On the basis of our present-day knowledge, we deal often with a disease of the mind as such, contrasting definitely with diseases of the brain in which mental symptoms occur.

May Reduce Number of Functional Disorders

In the history of medicine there have been many diseases that were considered functional until definite organic disturbance was discovered. It is possible that as our knowledge becomes greater and our methods of investigation more refined, this group of functional mental diseases will be reduced in number. At the present time more than half of the severe mental diseases and most of the mild variety are left in the group in which no focal disturbance is recognized as necessary for their production. Certainly in the variety that we call the psychoneuroses, such as hysteria and neurasthenia, there is little reason to support the existence of any organic change in the central nervous system. On the contrary, our evidence points in the opposite direction because many of these conditions can be cured by psychologic procedures.

Although there is no evidence at hand, either as a result of clinical observation, laboratory technic or postmortem examination, of any severe organic disturbance, many of the cases in this group are of the severest consequence, leading to chronic mental disorders with deterioration of the mind. It is a subject, then, that merits painstaking and long-continued investigation. Unfortunately, this branch of medicine has not received a sufficient amount of consideration. This is partly due to the difficulties and intricacies of research in this field and partly due to insufficient funds.

With lack of knowledge concerning any lesion of an organic nature, we are in a position different from what we are when dealing with other types of disease. In dealing with the causation of such disorders as schizophrenia (dementia praecox) and the affective psychoses (manic depressive insanity), which represent a large percentage of the cases of mental disease, it must be realized that there is a divergence of opinion regarding them.

The older concept, which is still held by many persons, is that dementia praecox, at least, is an organic brain disease but that our present methods of investigation are not sufficiently refined to allow us to perceive the changes. Another school of thought looks on these disorders as definitely psychologic.

Is Mental Disease Hereditary?

The question of heredity in mental disease has always been a pertinent consideration. Unfortunately we know little about human heredity, and when we come to the complicated field of mental disorders the difficulties are great indeed. All studies and researches in this territory are open to many criticisms both from the standpoint of theory and fact. In the first place, one must consider the problem of the occurrence of mental diseases in various forms. Is there any relationship between the various types of mental disorder so that one type of mental disease in the parents can be

There is quiet beauty about this hospital for mental disease.

transmitted to the child in the form of another disorder? For instance, can senile dementia in one generation be related to hysteria in another, or vice versa; or, is there any relation between migraine (periodic headache) in one generation and dementia praecox in another?

Cannot Make Dogmatic Statements

Certainly there can be much doubt cast on such ideas. Unfortunately, many of the heredity studies have been obtained with no thought of separation of the disorders. Alcoholism, prostitution, migraine, temper, pauperism, feebleminedness, epilepsy, dementia praecox, brain syphilis, brain tumor and whatnot, have all been lumped together, and when any one of these has occurred it has been considered as a pertinent fact in heredity studies. A recent complication has been added by the concept that many people show basic underlying qualities of schizophrenia, or manic depressive insanity, without ever reaching the state at which their peculiarities or character reactions may be considered as representing mental disorder. Yet, if this is true, it has the greatest bearing on mental disorder in the subsequent generation.

With these various difficulties, which are only mildly indicated here, it follows that we cannot make dogmatic statements regarding the influence of heredity in mental disease. Certain facts stand out in bold relief, however. There are families in which the same type of mental disease has appeared through a number of generations. This is true of dementia praecox, manic depressive psychoses, feeblemindedness.

It is also true that there are certain forms of organic brain disease that seem to have a definite familial or hereditary tendency. A striking example of this is Huntington's chorea, a disease that has as its main characteristics the hereditary aspect, and most of the cases can be traced back to the original American ancestry. We may, therefore, assume that it is possible for certain mental diseases to show a marked hereditary tendency; in other words, a tendency for mental disorder to appear from generation to generation, strongly suggesting that a predisposition of the disorder is inherited. This may be true whether the disorder is functional or organic.

That certain qualities of the mind are carried down in an hereditary manner seems quite certain. Musical ability, for instance, would seem to be a heritable quality. On the other hand, many cases of mental disease of the severest type, whether functional or organic, will be found to occur in families whose genealogy seems to be much better than the average. This will indicate that the diseases may arise *de novo* with little relationship to parental or ancestral character, and, of course, the world is full of normal persons whose parents or immediate ancestors suffered from mental disease and who themselves are average in every way.

When we come to a consideration of statistical studies dealing with the inheritance of mental disorders, there are no markedly clear results. If the ancestry of a group of patients with severe mental disease is studied, it will be found that some mental disorder or peculiarity will be found in about 60 or 70 per cent of the ascendants and collaterals of the previous generation. This would seem to indicate some hereditary connection. However, if one takes a random group of ordinary mentally well persons and searches their ancestry in the same fashion, one will find evidence of mental disorders of the same variety as in the first group in almost the same percentage, although not quite as high. The same is more or less true in a group of manic depressive patients and an ordinary group, although the percentage of bad heredity in the manic depressive group is a little higher than in the average so-called normal, and the same may be said for epilepsy.

Feeblemindedness Chiefly Result of Injury

In the group of feebleminded, the story is somewhat different. The largest percentage of low-grade feebleminded persons are the result of accidental injuries to the brain of the fetus or young infant. These injuries may be in the

form of trauma or physical damage, as in instrumental or difficult birth, a head injury from a fall, or from disease occurring in the prenatal life of the infant or in early infancy. Inflammation of the brain or hemorrhages account for many. These are then purely accidental manifestations and can have no hereditary significance.

In the case of the high-grade feebleminded, the situation is probably different. These individuals are simply less highly endowed than the average. They represent a lower state of mental development and probably in many instances, at any rate, breed true to form.

One may sum up the matter of heredity of mental disease somewhat as follows. There is some evidence that mental disease, or a tendency to mental disease, is transmitted from generation to generation, but this represents a small part of the problem. From the theoretical standpoint, and from the standpoint of eugenics as a science, the matter offers the utmost interest and requires infinite study and research. From the practical standpoint and from the standpoint of applied eugenics, the problem is much more complicated. It seems to me that the situation can be viewed in this light: That when there has been a considerable incidence of mental disease in several generations, the probability of the continuation of a mental disorder in future generations is fairly great. When, however, a few sporadic cases of mental disease occur in a family, there is little reason to be fearful of the results of the continuation of such a family strain. Probably the dangers are a little greater than elsewhere, but not so great that one can draw dogmatic conclusions.

If heredity is not the main factor in the production of mental disease, then one must look for the cause in environmental factors. Environment is here used in its broad significance, meaning every influence that bears upon the individual from the time of germination to death, including various disease conditions, poisons with which he comes in contact, living conditions and mental stresses and experiences. Practically, this is a much more useful method of approach to the subject of the cause of mental disease than the more elusive one of heredity. It means that one must look with the utmost care for influences that lead to the disorder. This is the discipline of clinical medicine.

Must Study Physiology of Thought

Not enough work has yet been done in this field, sufficiently fine methods have not been evolved to give us the answer. Until we get some more knowledge of the physiology of thought, we are not going to be able to describe the conditions underlying the pathology of thought. As yet we have no fundamental knowledge of the physical chemistry or photochemistry, or whatever the process is that takes place in the production of thinking. Researches and studies up to the present time have likewise shown us no clear-cut disorders on the physical side as the cause of dementia praecox and the manic depressive insanity. Studies must continue for many years before one is in a position to say that no such causes exist. There are many who are convinced of their existence but have not found them, or if they believe they have, have not been able to convince others of the significance of their findings.

While these studies on the physical causation of mental disease are being carried on, with the methods of clinical medicine and the allied physical sciences, investigations into the psychologic determination of mental disease are being prosecuted. In the case of the psychoneurotic manifestations, such as hysteria or obsessions, there is rather convincing evidence that the cause is to be found in the psychologic make-up of the individual, or, rather, on the psychologic experiences and traumas that the individual has undergone. During the present century much important investigation in this field has occurred, largely instigated by Freud and Janet, which has given us a considerable insight into the causes of these manifestations. They are largely considered as psychologically determined. Their genesis is in the psychic sphere; hence the term "psychogenesis."

Defines Field for Psychotherapy

For all practical purposes, therefore, we may consider that the cause of most of the minor psychotic manifestations, the psychoneuroses, for instance, and possibly the schizophrenic and manic depressive psychoses, are psychogenic disturbances. The importance of this concept will be clear if one recalls what has already been said at the beginning of this article on the necessity of understanding the cause of the disorder in order to direct measures for the cure and prevention.

If these disorders are psychologically determined, or psychogenic, then the treatment of the fully developed condition will be in the field of psychotherapy, and their prevention will depend on the proper direction of thought and the protection of the psychic life. This point of view affords an opportunity for therapeutic attack on the fully developed psychic disturbances as well as the possibility that they may be prevented.

HYGEIA
THE HEALTH MAGAZINE
Published by the American Medical Association
535 North Dearborn Street, Chicago

Plain Facts about Health and Disease

HYGEIA'S NEW SCHOOL DEPARTMENT

IN THE September number of HYGEIA a new department called "Health and the School" will be a prominent feature. It is planned to continue this department as an experiment at least for some time, with the hope of making HYGEIA increasingly useful to teachers and other educators.

As an assistant editor for this new department HYGEIA has secured the services of Dr. J. Mace Andress, who is widely known for his experience and training in the field of health education.

Dr. Andress was born in Michigan and received his A.B. degree from the Michigan State Normal College in 1905. Master's degrees were conferred upon him later by the University of Chicago, Harvard University and the Michigan State Normal College. The master's degree from the last named institution was granted him because of his contributions to health education. In 1915 he received the Ph.D. degree from Clark University.

As a teacher he has had experience in practically every type of institution from the rural school to normal school, college and university. He is at present a lecturer on health education at Boston University and the Boston School of Physical Education.

Dr. Andress first came into national prominence as the author of a new type of book for teachers entitled "Health Education in Rural Schools." It was then and still is the only book for teachers in this special field. In 1920, shortly after the publication of this book, he was called upon by Dr. Claxton, then U. S. Commissioner of Education, to make an investigation of health teaching throughout the country and incidentally to lecture on health education. His itinerary took him into nearly every state in the union. Later in collaboration with Miss Mabel C. Bragg he prepared for the bureau Bulletin No. 10, "Suggestion for a Program of Health Teaching in the Elementary Schools." This document was the basis of much of the pioneer work in the new field of health education.

Probably Dr. Andress is best known to teachers through the popularity of his numerous health books for teachers. His series of textbooks includes "The Sunshine School," "Health and Success," "A Journey to Health Land," "Boys and Girls of Wake-Up Town," "Health and Good Citizenship" and "Health Essentials."

HYGEIA wishes to be increasingly useful to the educators of the future citizens of America. Its editors welcome questions from teachers not only as to their personal health problems but as to their problems in health education. It welcomes also in the future as it has in the past the contributions of teachers who have been instrumental in developing new means for promoting the gospel of good health.

RHEUMATISM

RHEUMATISM, inflammation of the joints and other disorders of a related character are today among the great scourges of mankind.

Every one knows about tuberculosis and what a menace it has been to human beings. Few realize that in Berlin, for example, the number of persons sick with disorders of the joints of a rheumatic character is three times as great as the number ill from tuberculosis and that there are eight times as many cases of joint inflammations as of tuberculosis.

Rheumatic disorders and inflammations of the joints are as old as mankind itself. Hippocrates, the great founder of modern medicine,

observed cases and described them at least 300 years before the Christian era. In skeletal remains from the stone age the results of inflammations of the bones and joints are apparent. Of course, the subject has received the attention of medicine, but never the intense type of consideration that has been given to the more serious infectious disorders that produce death promptly. The fear has never been associated with these diseases that has so definitely accompanied those that strike suddenly and fatally. The long periods of disability and the pain, however, should have been sufficient to cause a more concerted and definite attack on the problem than has heretofore been made.

It is encouraging to know now that an international organization of physicians is being formed to give special study to rheumatic diseases. In some countries special hospitals have already been built for the study of rheumatic cases, and physicians are gathering in research institutions to find out if possible the specific causes of the various rheumatic disorders and to evaluate methods of treatment. The history of treatment of rheumatic disorders is marked by discarded panaceas and by all sorts of methods that have not stood the test of even a brief period of time.

Because of the chronic and intermittent character of these diseases, patients are likely to welcome any new method of treatment and to claim for each new method fancied benefits, only to suffer disappointment again and again when the new methods fail.

Charlatans and quacks, realizing the nature of the disease, have thrived upon patients with these disorders. In many instances manipulations and adjustments made while the bones and joints are in an inflammatory condition have resulted in permanent and serious changes, which might not have occurred had the inflamed tissues been given opportunity for rest.

After almost 2,000 years, medical science turns its attention primarily to physical therapeutics, including the application of heat, sunlight, baths and similar measures which were the primary methods used by the ancient Greeks.

Recently some British investigators have given special attention to the relationship of climate to rheumatic disorders. It is known that the frequency of rheumatic fever in the United States becomes consistently less as one travels from the northern to the southern portions. One British investigator remarked that during thirty years of service in the tropical Malay peninsula he had seen hundreds of thousands of patients and that he had never seen a typical case of rheumatic fever. Another investigator produces detailed evidence in support of the idea that cold and damp play a part in rheumatism. Almost 60 per cent of the rheumatic children under his care were from homes in damp areas. Children living in dry residential areas and schools do not seem to suffer as much from rheumatic infections as those in damp places.

All of this, however, is merely additional evidence of the fact that little has been definitely established in relationship to rheumatism and its control. The problem is now engaging the best minds of scientific medicine. It is reasonable to believe that consistent effort will produce a better understanding of the problem, decrease human suffering and lower as well the tremendous financial loss associated with these crippling diseases.

MORE DANGEROUS THAN THE SHARK

THE man-eating shark, popularly regarded as man's most dangerous enemy among marine fish, now has a rival. The barracuda, a savage, pike-like fish inhabiting tropical and subtropical waters, is much more likely to attack man than is the shark, says a report in *The Journal* of the American Medical Association.

Two New York naturalists describe the curious case of a man who was severely bitten by one of these voracious fish while he was swimming off the Coco Solo naval base on the Atlantic side of the Isthmus of Panama. By a study of the wounds, sharks and crocodiles were eliminated and the blame fastened on the barracuda.

This huge fish, which abounds in the West Indies and the whole Gulf-Caribbean region, is recognized by all natives as more to be feared than the shark. The authors say that the shark is really an arrant coward and that if a person falls overboard near one it will probably depart in a panic. The barracuda, on the other hand, is inquisitive, utterly fearless, voracious of appetite and seemingly implacable of temperament.

Reviewing the literature on the subject of the barracuda, the writers conclude that the big fish is attracted by any commotion in the water and strikes at objects without discrimination, not from a desire for human flesh. It usually strikes, then turns loose and passes on. "There is no record known to us of a barracuda attacking a person a second time after once laying hold," they assert. The shark acts in the contrary manner, attacking again and again and tearing its prey into "chunks" small enough to be swallowed.

Harrowing tales are told of the terrible wounds inflicted by these cruel sea creatures, found in such varying locations as the West Indies, the Solomon Islands in the western Pacific and in the Indian Ocean. One Nicolas Pike relates that while he was United States consul at Port Louis in the western Indian Ocean, he never went wading on the reefs without wearing heavy boots and carrying a fish spear to protect himself against the attacks of barracudas, which, he said, "came right at me like bulldogs."

Another writer, Wood-Jones, who was medical officer on the Cocos Keeling atoll in the northeastern Indian Ocean for some years, is quoted as follows:

"The barracuda has, however, left its mark upon at least one man and I have seen a Cocos native the whole of whose calf muscles had been torn away by the cruel teeth of this large relative of the pike. The barracuda is an ugly and dangerous fish, for it is of all sea creatures the most difficult to see and it has a habit of dashing upon whatever stirs in the water."

THE DEADLY MOTOR ACCIDENT

AS MIGHT have been expected, the congestion of traffic on the roads beginning with the open season for touring and the great increase in motor vehicles caused an alarming jump in motor accidents during May. The average per day for that month from a selected list of cities and states was sixty-eight persons, as compared with sixty-one killed in motor accidents every day in April. Perhaps some other explanation will have to be found, since the record for January was the highest for the year, a total of seventy-two persons each day. The January explanation may rest in the possibilities of skidding and the difficulties of driving associated with bad weather. The records for cities are much worse than those of the open country. The sad fact is also apparent, according to the figures furnished by the National Safety Council, that 34 per cent of all the deaths were in children under 15 years of age.

It is, of course, reasonable to believe that there will always be some deaths from motor accidents, since some persons are inherently careless, and since the mentality of others is hardly sufficient to warrant them in walking along the street without help, let alone driving a motor car.

Actually the deaths from automobiles in Illinois rank tenth in all the causes of death. The number is thus greater than that attributed to diphtheria, infantile paralysis, malaria, measles, smallpox, typhoid fever and whooping cough combined. It is a proud boast of science that by its discoveries it has freed humanity from the fear of epidemic diseases. Apparently deaths from automobile accidents are the one type that occur everywhere, all the time, and are thus perennially epidemic.

DR. HIDEYO NOGUCHI

In that heroic warfare waged to save
  Humanity from scourges that beat down
  The old and young alike, he won renown,
And scorning caution, bravest of the brave,
Died in the front line trenches. So he gave,
  Serene, devoted, battle to a foe
  That, turning on its conqueror, laid him low.
Yet shall his selflessness survive the grave.
For 'tis engraved in words of holy writ,
  No greater love than this hath any man,
  That he lay down his own life for his friend.
And all the world to come shall witness it,
  That, for his fellows here, a course he ran
  Whose heroism nothing can transcend.

—FRANK FISCHER.

New Books *on* Health

Reviews of Interest to General Reader, Parent and Teacher

FEEDING THE CHILD FROM TWO TO SIX

By Mary Frances Hartley Barnes. Cloth. Pp. 206. Price, $2.50. The Macmillan Company, 1928.

THREE main factors require consideration in the nutrition of the child: first, the quantity of food; second, the quality of foods, and, third, methods for getting the child to eat the kinds and amounts of foods that he ought to have.

The second of these elements is probably the one most easily controlled. It is a simple matter to set down sample meals. The question of amount is satisfactorily regulated by the child's appetite in most instances. Neither the optimal maximum nor minimum can be stated with any exactness, because of variations in activity as well as in types that exist among children. The question of poor appetite resulting from emotional disorders and conflicts is under debate both as to cause and treatment.

In this book there is an attempt to meet these problems for the mother. First there is a general discussion of plans of diets and lists of foods that are satisfactory for the child. Then follow sample meals for the first half of each month, which may be repeated for the last fifteen days of the month.

Before each monthly list, there are general rules that will aid in overcoming constipation, overweight, underweight and poor appetite. The usual tables of caloric equivalents, mineral content and proportions of fat, protein and carbohydrate in the various foods are appended.

This book will be of value to the mother who has trouble planning the child's meals. The sample diets provided insure the child an adequate supply of all the necessary food elements.

The author seems to have certain prejudices, especially against the use of sweets and sugar, and advises the use of little sugar with cereals. It may be found in many instances that the use of sugar in this fashion may be beneficial by giving the child much needed additional calories. It does not follow that such use will serve to blunt the child's appetite for other foods.

William I. Fishbein, M.D.

THE MOTHER'S DAILY DOZEN

By Laura Chadbourne Puffer. Price, $1. Doubleday, Doran & Co., Inc., Garden City, N. Y., 1928.

IN A few pages of heavy stock the author has collected some trite statements planned as mental exercise for mothers. All the ordinary virtues are here urged on the mother with a view to making her better suited to her children. The book is priced far above its actual merit in either the quality of the printing or of the material in it.

Morris Fishbein, M.D.

HEALTH BEHAVIOR SUPPLEMENT

By Thomas D. Wood, M.D., and Marion Olive Lerrigo, Ph.D. Pp. 32. Public School Publishing Company, Bloomington, Ill., 1928.

DURING the past few years, health education and material have been developed with surprising rapidity. Only one year ago the authors presented a volume of 150 pages entitled "Health Behavior as a Scale in Health Education." This scale, which was divided into six parts, covered mainly the various phases of personal hygiene.

In the supplement which now appears, attention is directed to subjects of overweight, posture, strength and vigor, physical defects and their correction, immunization, school routine, adolescent development, family cooperation in health programs and home conditions. In addition to the discussion of these topics, there are suggested activities for the use of the teacher in connection with the six scales treated in the original publication.

The supplement shows the same thorough and painstaking preparation that was apparent in the original publication. Both the book and the supplement should prove valuable to all teachers and supervisors who are interested in administering health education programs.

R. G. Leland, M.D.

FOLKLORE OF THE TEETH

By Leo Kanner. Pp. 316. Price, $4. The Macmillan Company, New York, 1928.

OF ALL the organs of the human body, none has attracted so much folklore, superstition and symbolism as the teeth. For this there are many obvious reasons. Dr. Kanner has collected these superstitions in a volume of six parts, dealing with the number, shape and eruption of the teeth, with popular dental hygiene, with toothache, artificial deformations, and uses of teeth outside the human body. An appendix provides an excellent bibliography.

Prayers and poems related to the teeth, popular remedies for toothache, the story of the invention of the toothpick and toothbrush, all are here available. It is perhaps remarkable that out of such a mass of superstition and credulity, illogical thinking and strange notions, the actual knowledge that we possess today could ultimately be evolved.

Morris Fishbein, M.D.

THE CHILD'S DEVELOPMENT AND HEALTH RECORD

By Justin A. Garvin, M.D., and Harold O. Ruh, M.D. Pp. 107. Price, $2.50. D. Appleton and Company, New York, 1928.

IN THIS book the authors provide blanks for recording in orderly sequence events and observations that have a direct bearing on the child's health and growth from birth to the age of 14 years.

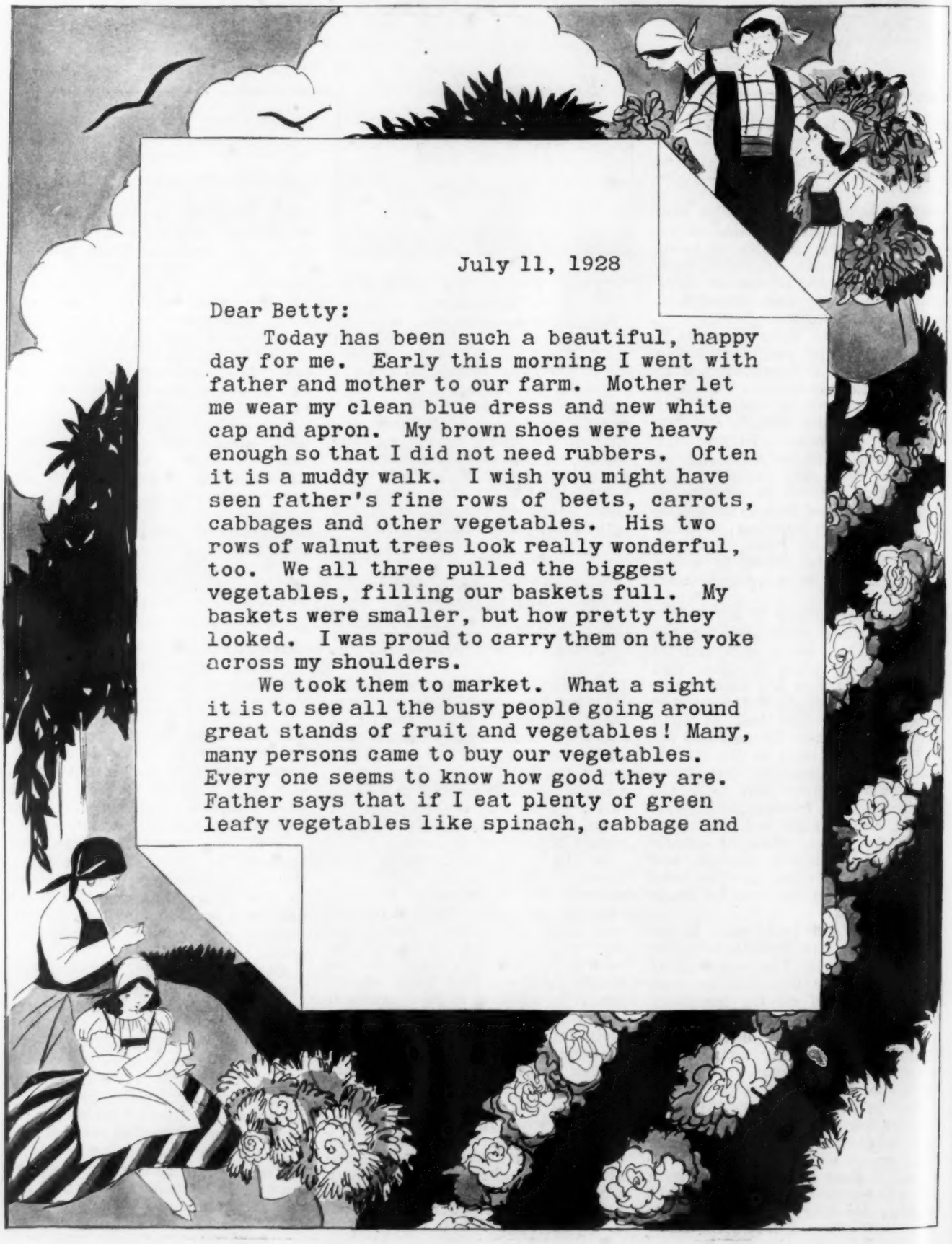
With the growth of modern methods in preventive medicine, the information to be kept available in this volume is constantly being called for by schools, kindergartens, summer camps and similar institutions.

Pages are provided for recording regular physical examinations, at least one every few months, every month during the first year and once each year thereafter. Charts are available for tracing the weight of the child and for carefully recording the day by day progress of his illnesses. Special tables are devoted to immunization records and laboratory observations.

The volume should be useful to parents in assembling the data for which space is provided.

Morris Fishbein, M.D.

Health Secrets from France



July 11, 1928

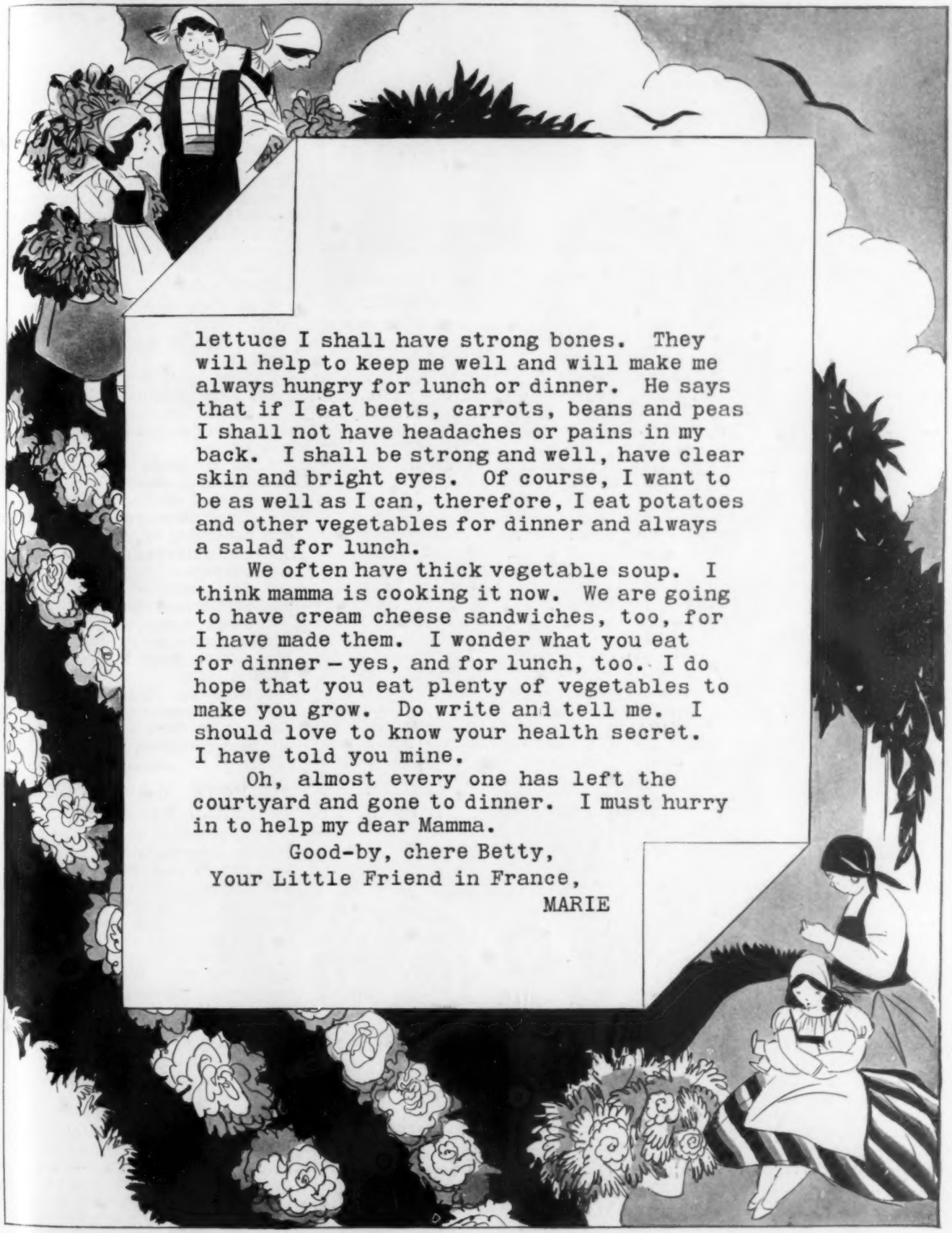
Dear Betty:

Today has been such a beautiful, happy day for me. Early this morning I went with father and mother to our farm. Mother let me wear my clean blue dress and new white cap and apron. My brown shoes were heavy enough so that I did not need rubbers. Often it is a muddy walk. I wish you might have seen father's fine rows of beets, carrots, cabbages and other vegetables. His two rows of walnut trees look really wonderful, too. We all three pulled the biggest vegetables, filling our baskets full. My baskets were smaller, but how pretty they looked. I was proud to carry them on the yoke across my shoulders.

We took them to market. What a sight it is to see all the busy people going around great stands of fruit and vegetables! Many, many persons came to buy our vegetables. Every one seems to know how good they are. Father says that if I eat plenty of green leafy vegetables like spinach, cabbage and

A Vacation Letter

By Katharine Ranger



lettuce I shall have strong bones. They will help to keep me well and will make me always hungry for lunch or dinner. He says that if I eat beets, carrots, beans and peas I shall not have headaches or pains in my back. I shall be strong and well, have clear skin and bright eyes. Of course, I want to be as well as I can, therefore, I eat potatoes and other vegetables for dinner and always a salad for lunch.

We often have thick vegetable soup. I think mamma is cooking it now. We are going to have cream cheese sandwiches, too, for I have made them. I wonder what you eat for dinner — yes, and for lunch, too. I do hope that you eat plenty of vegetables to make you grow. Do write and tell me. I should love to know your health secret. I have told you mine.

Oh, almost every one has left the courtyard and gone to dinner. I must hurry in to help my dear Mamma.

Good-by, chere Betty,
Your Little Friend in France,
MARIE

News *and* Views

From the

FIELD OF HEALTH

BACTERIOLOGIST DIES OF DISEASE HE STUDIED

Another victim has been sacrificed in the battle of science against Rocky Mountain spotted fever. A. Leroy Kerlee, a young bacteriologist recently graduated from Montana State College, contracted the disease while working in the U. S. Public Health Service laboratory at Hamilton, Mont.

Spotted fever is a deadly disease carried by wood ticks in the Rocky Mountain region. Since 1914 cases have occurred in thirty-five of the fifty-six counties in Montana, while before that time the disease had been found in only three counties.

INDUSTRY ENCOURAGES PLAY FOR WORKERS

Community recreation for adults has been one of the outstanding developments in the recreation movement of the last ten years. This is especially evident in the growing interest of industrial firms in providing recreation facilities.

The U. S. Bureau of Labor Statistics found in a recent survey of 430 companies that 235 provided clubhouses or recreation rooms with facilities for different games; 316 had lectures, moving pictures and concerts or assisted in the development of orchestras, bands and glee clubs, and 319 had some arrangements for outdoor activities.

INTIMIDATE CHIGGERS WITH SULPHUR

Dusting one's clothing with flowers of sulphur is recommended by the U. S. Department of Agriculture as a preventive measure against the little pest to picnickers familiarly known as the chigger.

Contrary to the popular impression, it is not the burrowing of the minute red creature that causes all the misery of its victim but a poison that it injects under the skin, the department states.

Destroying chiggers is hardly possible in areas covered with woods and undergrowth, but they can be kept away from homes and camps by clearing away underbrush and weeds, by keeping grass cut close and by dusting the ground with powdered sulphur.

PREVENTION EFFORTS SAVE BABIES' EYES

Ophthalmia neonatorum, or babies' sore eyes, as a cause of blindness has diminished during the last twenty years until it is now 64 per cent less than in 1908, says a report of the National Society for the Prevention of Blindness.

Through the efforts of the society, laws have been adopted in most states requiring doctors, nurses or others in attendance to put prophylactic drops in the eyes of babies at birth. Complete eradication of this cause of blindness is said to be scientifically possible.

Sight-saving classes, in which children with defective vision are taught by special methods, have been established in eighty cities in eighteen states. There are now 292 such classes, in contrast to two classes in 1913.

Of greater significance than these accomplishments, however, is the fact that ophthalmia neonatorum still remains to be conquered, that 5,000 sight-saving classes are needed, that preschool eye testing has only begun, that trachoma is still a baffling disease and that eye hazards in industry are still a major cause of blindness, the report points out.

ALBERTA TO HAVE MODEL HEALTH AREA

A new development in health service is the establishment of a model health area in the province of Alberta, Canada, by the health department of the government in collaboration with the Rockefeller Foundation, the *Canadian Hospital* reports. A model hospital, adequately staffed with physicians and nurses, will be built and will serve a population of about 21,000 persons. It will mean an expenditure of about $5,000 a year for the first five years, in which time the value of the project will be demonstrated, it is believed.

BEING SENSIBLE IN HOT WEATHER

Concrete suggestions "to help live through the summer" were offered to vacationists by W. E. Longfellow, assistant national director of first aid and life-saving service of the American Red Cross, in a recent article in the *American Physical Education Review*. Here they are:

1. Go slow and exercise moderately.
2. Get your sunburn and tan gradually.
3. Take your swimming a few yards more each day.
4. Paddle a few miles longer each week until you are in condition for long cruises.
5. Be moderate in your eating and drinking, especially when facing physical strains and hot sun.
6. Think ahead and learn first aid and life-saving to care for yourself and family through the hazards of the summer.
7. Get plenty of sleep at night and this means comfortable beds.
8. Don't hang around in wet bathing suits or let the children. This is too great a strain on the heating plant.
9. Give the children well prepared and regular meals during hot weather or they will lose weight and become below par physically.

PREVENT ILLNESS AFTER FALL RIVER FIRE

Prompt action on the part of the health department aided by the newspapers and radio stations of Fall River, Mass., prevented sickness and casualties following the disastrous fire that destroyed most of the business section of the city.

Fall River's water supply is cross-connected with the auxiliary fire protection in some parts of the city, from the Quequechan River, which is known to be badly polluted. It was necessary to use this auxiliary supply during the fire and the city drinking water was questionable.

Public health authorities immediately advised the residents through the newspapers and radio stations to boil the water twenty minutes before using it. As a result no sickness or death was reported following what health officials regarded as a dangerous situation.

Pacific and Atlantic

RUSSIA ADOPTS SPORTS

Women students of Soviet Russia are following their western sisters in the pursuit of athletics. These upstanding specimens from the State Institute for Physical Culture competed in the spring sport holiday held in Moscow recently.

Wide World

RUNS TRUE TO FORM

Judging from the set of his teeth and the flash of his racquet, "Little Bill" Tilden, 14 year old nephew of the ace of tennis, means to keep laurels in the family for another generation. He is a member of the Germantown (Pa.) Academy team, on which his famous uncle started his career.

A JUMPING TOOTHACHE

Before the days of effective dentistry, the unfortunate sufferer from toothache had little recourse but to demolish the furniture, according to this old-time comic engraving, in which the onlookers seem a little heartless in their merriment at the victim's antics.

Keystone

Pacific and Atlantic

Keystone

DAY NURSERY—RUSSIAN STYLE

Soviet Russia is aiding mothers to earn a living with the assurance that their children will be cared for in their absence. These are children of the village of Great-Kirsanowka, Taganrog district, North Caucasus, having their lunch at the village nursery while their mothers work.

A NEW IDEA IN MONOGRAMS

Decorative symbols are being used in a children's home in London to designate the youngster's seat at table, his desk in the classroom and his individual possessions, such as towel and washcloth.

Pacific and Atlantic

IN WAR-RIDDEN CHINA

Long continued fighting in China has brought millions to the point of starvation. This little refugee's shelter is a miserable tent of straw mats built by the roadside.

Questions *and* Answers

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed.

Blood Test for Parenthood

To the Editor:—Can the relation of parent to child, or vice versa, be established certainly and unerringly by means of testing and comparing samples of the blood? Are such tests accepted as evidence by the courts? Is it necessary that the tests be made immediately after the blood is taken? Could samples of the blood suitably prepared be shipped to some distant surgeon for testing?

E. F. A., South Carolina.

Answer.—By tests of the blood of the persons involved the question of parental relationship can be determined to this extent: (1) The child *may* be the offspring of the supposed parents; (2) the child is *not* the offspring of the persons examined.

The results of such tests of the blood are accepted as evidence by the courts of certain European countries. In this country the courts, so far as is known, have not taken a definite stand.

The tests are better made as soon after the blood is taken as possible, but suitably handled samples of blood can be sent away for testing by a competent person at a distance.

Purine in Eggs and Meat

To the Editor:—Some persons claim eggs have purine in them. Is this true? What meats have the least purine? Is there purine in lamb or in rabbit? M. B., Illinois.

Answer.—All animal cells have nuclei, and therefore contain purine bodies. Glandular tissue, such as pancreas and brain, is especially high in purine content, while muscle tissue contains somewhat less. Ovovitellin, the protein in egg yolk, yields no purine bodies.

Schick Test

To the Editor:—Please tell me if once a person has a negative Schick test how long he may expect to be immune from diphtheria? M. B., New Hampshire.

Answer.—Usually a person who has had a negative Schick test may expect to be immune from diphtheria for many years. In time of special danger it may be wise to repeat the test.

Cretinism

To the Editor:—Our boy, 4 years old, has bright, intelligent eyes and fine silky hair. Two doctors say he is a cretin; one prescribed thyroid treatment (which he had) and the other said it would be of no use. Another doctor said that the boy's condition was caused by a water pocket or cavity on the brain and that there is no remedy. The child suffered from malnutrition and had a mild case of rickets, having been ill practically all the first three years of his life. He sat up and spoke his first word at 15 months. He walked at 3½ years and is just now beginning to reason and think for himself. In music he is unusually apt; he has been able to sing and memorize songs and keep perfect time for a year or more; along other lines, however, he is very backward. What is the cause of cretinism and the remedy? Is any special training necessary or helpful?

R. H. M., Illinois.

Answer.—In the absence of a personal examination and study of the case, it would be idle to venture a diagnosis when the physicians who have seen the child disagree. The best suggestion we can offer is that the parents ask one of their doctors to refer them to a physician who has had large experience in nervous diseases of children.

Cretinism is due to a congenital deficiency in the amount and quantity of the secretion of the thyroid gland. It has definite signs and symptoms and one of the remarkable things in medicine is the rapidity with which the signs and symptoms improve in children on the administration of the thyroid treatment. There are other forms and causes of subnormality in children, however, and when some other form is present, the thyroid medication does not help much as a rule.

Pretzels

To the Editor:—I understand that pretzels and cracknells are boiled in lye to give them the glaze finish. Is this true? I assume then that they are not baked in an oven but are boiled in lye. I should think that bad for the health. Cracknells are very light and I have known doctors to recommend them for weak stomachs. M. M. B., Indiana.

Answer.—Technical Bulletin No. 46, published November, 1927, by the U. S. Department of Agriculture, Washington, D. C., states that pretzels are dropped into a solution of soda ash, sal soda and caustic soda, hot, but not boiling, and allowed to remain there till they come to the top. They are quickly removed from the solution, salted and put into an oven to bake.

The purpose of the "lye" water is to give the glaze and color to the pretzel when finished. In order to aid in obtaining a good color, most pretzel manufacturers use straw water in with the "lye" solution. Pretzels are, therefore, not boiled in lye, as that would cause the dough to disintegrate and give them a disagreeable flavor and color. They are baked in an oven and the heat to which they are subjected causes changes in the flavor which aid in digestion. They are high in food value. The alkali is quickly neutralized by the hydrochloric acid in the stomach.

Ovarian Cyst

To the Editor:—Can a water cyst on the ovary be cured by electric treatments? Is there any danger in electric treatment on the water cyst or water tumor? Is there danger of the cyst twisting from housework or exercise? Is it likely to burst?

E. R., Massachusetts.

Answer.—A cyst of the ovary, if it needs any treatment at all, is much more surely and safely relieved by surgical operation than in any other way. The term "electrical treatment" is indefinite. There are many types of electrical treatments, but we know of none that is satisfactory in the treatment of an ovarian cyst. Twisting of the pedicle of the cyst is a rare accident, as is bursting.

Gluten Flour

To the Editor:—A friend of mine who has diabetes wants your opinion of the use of gluten flour. He does not think it helps him; if anything, he believes it irritates his trouble. Last winter his right limb was amputated because of gangrene in the foot. He is in pretty good health, but has to keep to a strict diet.

W. F. B., Alaska.

Answer.—Gluten flour is simply ordinary white flour with a slightly less amount of starch in it. As a food for diabetic patients it has absolutely no value except for the content of starch and protein. This varies greatly with the different flours and is usually an unknown quantity, especially regarding starch, or carbohydrate. Therefore, it is somewhat more dangerous to use than ordinary white flour whose starch content is more definitely known. It certainly can never be considered in any way as having curative properties and many students of the disease believe it better not to use it at all.

Intestinal Tuberculosis

To the Editor:—A patient suffered a severe attack of tuberculous peritonitis about two and one-half years ago and had the appendix removed; since that time he has never been able to defecate except by an enema. All laxatives permitted by the physician fail to do any good. Is it probable that the action of the bowels will eventually return as the condition improves? A physician said that he thought the intestines were temporarily and perhaps permanently paralyzed. Do such conditions appear in cases of tuberculous intestines? Is once every forty-eight hours often enough for a complete evacuation of the bowels when an enema is taken; or should it be done every day? Is an operation ever advisable to relieve a case of intestinal tuberculosis? The patient has been on the "cure" at home for about nine months, after having stayed at a sanatorium two years. From what source can I obtain information on the use of heliotherapy in the treatment of this condition?

K. L., West Virginia.

Answer.—The symptoms that have been described not infrequently result from any operation in which the abdomen is opened. Always after such an operation, the peritoneum (the delicate lining membrane of the abdomen), is irritated and as a result more or less numerous adhesions occur between the surfaces of adjacent coils of the intestine or between other organs. Such adhesions also occur from tuberculosis of the bowels.

These intestinal adhesions often interfere with the wavelike motion of the bowels and may produce partial constriction of the lumen of the bowel and so interfere with bowel movement. Sometimes this condition improves with time but not always. Actual paralysis of the bowels is rare. An operation is seldom advisable because any attempt to break up these adhesions, even at the hands of the most skilful surgeon, is apt to make the condition worse.

Conditions differ so much in different cases, however, that it is not possible to make any general statement that will apply to all patients with tuberculous peritonitis.

One of the most recent books on heliotherapy and artificial radiation is "The Clinical Application of Sunlight and Artificial Radiation." It includes other physiologic and experimental aspects with special reference to tuberculosis. The book is by Edgar Mayer and is published by Williams & Wilkins of Baltimore. The price is $5.

Aspirin

To the Editor:—Should school children take aspirin tablets?

H. J., Indiana.

Answer.—Under no circumstances should school children take aspirin, unless it is on the advice and prescription of a competent physician. It is habit forming, and often pernicious in its effect.

Death from Blow on Abdomen

To the Editor:—What is the explanation of death, or "knocking the wind out of a person," by a blow on the abdomen? Is it a question only of reflex cardiac inhibition or is there also real inhibition or paralysis of breathing? If so, just what is the explanation? If not, why the sensation of inability to breathe? M. A. P., Colorado.

Answer.—Knocking the wind out of a person is readily explained on the basis of spasm of the muscles of breathing. This includes the closure of the space in the larynx by drawing together the vocal cords. This will not continue long enough to cause death. Stopping of the heart through nerve action may also be produced by a blow on the abdomen. This causes fainting but will not cause death.

The most probable explanation of death in such instances is the causing of rapid irregular twitching of the fibers of the heart muscle, which can be produced by the impact of a direct blow in the region of the heart. Cushny and Edmonds have described the production of such twitching by a reflex mechanism induced by stimuli coming from various regions of the body.

These statements are only probabilities but it is doubtful whether any one is in a position to be more positive in explaining the cause of death.

Cataract Operation on a Diabetic Patient

To the Editor:—A woman, 66 years old, who has diabetes, has a cataract in the center of each eye. One of them will be ready for operation in two or three months. The woman has had diabetes for eighteen years; is in fairly good health, but has daily from 2 to 3 per cent of sugar in the urine. There is no albumin or diacetic acid and the specific gravity varies from 1.020 to 1.030. The amount of blood sugar is not known. She has kept the same weight, 125 pounds, for about five or six years. She abstains from all sugar, but eats oatmeal in the morning, potatoes once a day and about two apples a day. Will it be safe for her to have the operation? Is this a very dangerous operation? It means either sight or blindness.

B. H. G., Wisconsin.

Answer.—The patient may be operated on for cataract without danger, provided she can be rendered sugar free and provided the blood sugar is kept at 1.2 or below until healing takes place.

High Blood Pressure

To the Editor:—Where can one get a good diet sheet for high blood pressure? I am 65 years old and mine runs from 170 to 210. If my blood pressure is 180 is it dangerous to go upstairs? Is there any medicine that is a permanent help? Is there a medicine that is injected for high blood pressure? How high can the blood pressure go before there is danger of apoplexy? G. A. M., Alabama.

Answer.—There is no single diet list for high blood pressure. The diet must be determined by the conditions of the case, and in most cases a simple reduction in the total amount of food taken each day with a particular reduction in the amount of meat, if that has been excessive, is the best diet.

There is no specific cure for high blood pressure. Certain remedies will temporarily lower blood pressure, but have rarely been found to be of advantage except to meet special conditions.

No particular point or degree of blood pressure causes a special danger of apoplexy. Apoplexy may happen when there is no increase in pressure. One with the high blood pressure described should be careful in going upstairs or indulging in any sudden exertion. The patient should be under the care of a physician.